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A DIRECTORY OF SPECIALISTS

Reed C. Rollins (Cambridge, Mass.)

One of the particular needs of a subject like taxonomy is to be able to find out who the various specialists in the subject are and where they are located. Who is working monographically on a particular group of plants; who is capable of handling identifications in a particular family or other group of plants; or who is able and willing to handle identifications of plants of a given area of the world? The answers to such questions are desired by a variety of scientists and government workers as well as taxonomists, but there is no good source at present. For several years the American Society of Plant Taxonomists has assembled information concerning the specialties of its members and this information has been distributed as part of a directory of the members. Various other societies have performed a similar service for their own members, and Index Herbariorum has been an important source of information concerning botanists connected with herbaria. But most of the available information has been of a limited nature and nowhere has it been possible to conveniently find a really comprehensive listing of specialists in plant taxonomy. And, using a particular plant group as a starting point, it has been next to impossible to find out who is actually working on that group.

Now, thanks to a grant of funds from the National Science Foundation of the United States of America, the International Association for Plant Taxonomy can undertake the preparation and publication of a directory of specialists in plant taxonomy. It is planned to make this directory world wide in its coverage and as comprehensive as possible in its inclusion of the plant kingdom. For example, certain groups such as bacteria, motile algae, viruses, plant microfossils, etc., sometimes considered to be on the fringe of the plant kingdom, are to be included. How comprehensive the final product will be depends in part upon the extent of cooperation received from the taxonomists themselves. Questionnaires printed in six languages will be sent to as many botanists as available membership lists will provide. Insofar as possible, membership lists will be solicited, but secretaries of societies and others who may see this note and have lists of botanists with addresses at their disposal will, it is hoped, voluntarily send these to the I.A.P.T. in Utrecht.

In mentioning that there are various kinds of specialists, I have in mind the fact that some taxonomists are essentially monographers, some are primarily engaged in floristic studies, and others may combine both types of study. Also, there are taxonomists who specialize in phylogenetic studies, cytotaxonomic studies, etc. The aim of the directory is not to cover the entire broad field of botany giving the specialties of every kind of botanist. Rather, it is to discover the taxonomists

who specialize in a particular way, either by plant group, by geographical area, or by geological time scale, who are able and willing to identify the plants that fall within their specialty. Willingness to identify plants of a given group or area will not be a prerequisite to being listed in the directory but it should be understood that to provide this information is one of the purposes of the directory.

The exact way in which the listings will be handled remains to be worked out in detail. However, it is expected that the point of reference in one set of listings will be the plant groups themselves. For example, under the family *Rosaceae*, all of the specialists on that family, whether by genus or a larger segment, will be listed. Accuracy in describing a taxonomist's specialty in the directory will depend upon the information supplied. Of great importance will be specific and particular data concerning the research area of each botanist. We should think it unlikely that a given specialist's coverage would be so narrowly circumscribed as to cover a single genus in a small geographical area, for example, *Lilium* in Nova Scotia. However, a frequent specialist's listing might easily be something like *Lilium* in the western hemisphere, or *Lilium* in North America. In the direction of broad coverage, we should expect some specialists to be listed for a family of moderate size for the world, or sometimes perhaps several smaller families for a particular geographical area. If the returns warrant it, we may expect listings to be set up in the directory by geographical area, possibly by continent and the subdivisions of continents. Thus, workers on floristics may be listed under the geographical unit in which they specialize. In subjects like paleobotany, it would seem reasonable to have the geological time scale used to help specify a workers research area. For example, microfossils of the Eocene or some such listing.

The directory, aside from the information it will provide about the specialists and the groups of plants or floras upon which they work, should provide at least two other facets of information. One would show the groups of plants having no taxonomic specialists, or groups that are inadequately covered by specialists. A second would show up geographical areas that are inadequately covered by specialists. Information of this type will be valuable for future planning of research programs and regional studies. For this reason, all groups of plants will be listed according to a scheme, whether there are any known specialists or not.

Dr. F. A. Stafleu, along with his many duties on behalf of world taxonomy, has agreed to oversee the compilation, final editing and publication of the directory of specialists. Mr. A. C. de Roon will work part time as editor. It is expected that the compilation of information will take about eighteen months and it is hoped that publication will be completed within two years. Each regular member and institutional member of the I.A.P.T. will receive a free copy.

As President of the International Association for Plant Taxonomy I should like to appeal to botanists everywhere to cooperate fully in making this directory the finest of its kind. When the questionnaire is received, I hope each taxonomist will fill it out accurately and return it promptly to the I.A.P.T. in Utrecht.

UN REPERTOIRE DE SPECIALISTES

En taxonomie, il est absolument nécessaire de connaître les divers spécialistes en la matière et l'endroit où ils travaillent. Qui fait la monographie de tel ou tel groupe de plantes; qui peut effectuer les déterminations de telle ou telle famille; qui peut et veut s'occuper de la détermination des plantes d'une région donnée du monde? Divers chercheurs, aussi bien que les taxonomistes, désirent une réponse à pareilles questions, mais il n'y a actuellement aucune bonne source

d'informations en cette matière. L'"American Society of Plant Taxonomists" a rassemblé, il y a quelques années, des renseignements relatifs aux spécialités de ses membres, qui furent publiés sous forme de répertoire des membres. Plusieurs autres sociétés ont réalisé le même travail pour leurs membres et l'Index Herbariorum a été une source importante d'informations pour les botanistes attachés à un herbier.

Toutefois, la documentation existante est, la plupart du temps, de nature limitée et on ne peut trouver nulle part une liste réellement compréhensive des spécialistes en taxonomie végétale. Aussi, il est pratiquement impossible de savoir qui étudie actuellement un groupe donné de plantes.

Heureusement, grâce à une subvention récente de la "National Science Foundation" des Etats Unis d'Amérique, il sera maintenant possible à l'"International Association for Plant Taxonomy" d'entreprendre la préparation et la publication d'un répertoire de spécialistes en taxonomie végétale. On se propose d'établir ce répertoire à l'échelle mondiale et de l'étendre à tout le règne végétal, y compris certains groupes, tels que les bactéries, les algues à flagelles, les virus, les microfossiles végétaux, etc., qui sont parfois considérés comme situés à la limite de ce règne.

Le répertoire envisagé sera d'autant plus complet que la collaboration des divers taxonomistes eux-mêmes sera plus étendue. Un questionnaire, imprimé en 6 langues, sera envoyé à tous les botanistes figurant sur les listes de membres disponibles. Dans la mesure du possible, des listes de membres seront demandées, mais il est à souhaiter que les secrétaires de sociétés et tous ceux qui auraient connaissance de la présente note et qui disposeraient de listes de botanistes avec adresses, les communiquent spontanément à l'I.A.P.T. à Utrecht.

En disant qu'il y a diverses catégories de spécialistes, je pense au fait que certains taxonomistes sont essentiellement des monographes, que d'autres sont avant tout des floristes et que d'autres encore combinent les deux genres d'études. Il y a, en outre, des taxonomistes qui se spécialisent dans des études phylogénétiques, cytotaxonomiques, etc. Il n'entre cependant pas dans l'intention des promoteurs de ce répertoire d'embrasser tout le vaste champ de la botanique en donnant la spécialité de chaque botaniste. Le but poursuivi est plutôt de faire connaître les taxonomistes qui se spécialisent dans une branche particulière, soit par groupe de plantes, soit par aire géographique, soit par ère géologique, et qui soient disposés à déterminer les plantes rentrant dans leur spécialité. Toutefois, l'acception de déterminer des plantes d'un groupe particulier ou d'une aire donnée, ne constitue pas une condition préalablement requise pour figurer dans le répertoire; mais il devrait être entendu que cette information en est une des raisons d'être.

La meilleure méthode pour l'établissement des listes est encore à étudier en détail. Toutefois, il est à présumer qu'une des listes comprendra les groupes mêmes des plantes. Ainsi, par exemple, sous la rubrique *Rosaceae* seront indiqués tous les spécialistes de cette famille, soit par genre, soit par groupe plus étendu. L'exactitude des données du répertoire sur la spécialité d'un taxonomiste dépendra des informations recueillies. Soulignons ici l'importance que revêtiront les données spécifiques et particulières relatives au champ de recherches de chaque botaniste. Il ne conviendrait guère, à notre avis, d'indiquer le champ d'activité d'un spécialiste en le limitant à un seul genre dans une petite aire géographique comme, par exemple, *Lilium* en Nouvelle Ecosse. Par contre, il serait normal d'utiliser une rubrique comme *Lilium* dans l'hémisphère occidentale ou comme *Lilium* en Amérique du Nord. D'autre part, dans un sens large, il faudrait sans doute incorporer dans les listes certains spécialistes pour une famille peu importante pour le monde ou parfois plusieurs petites familles pour une aire géographique particulière.

Si cela vaut la peine, on peut envisager de dresser des listes par aire géographique,

si possible, par continent ou par subdivisions de continent. Ainsi, les floristes pourront être rangés dans la région géographique dans laquelle ils se spécialisent.

Pour des sujets, tel que la paléobotanique, il serait logique d'utiliser l'échelle géologique comme critère pour localiser le champ de travail des spécialistes; par exemple, les microfossiles de l'Eocene ou un libellé approchant.

En dehors des renseignements sur les spécialistes et sur les groupes de plantes ou sur les flores qu'ils étudient, le répertoire devrait au moins fournir deux autres sortes de renseignements. L'un serait d'indiquer les groupes de plantes pour lesquels il n'y a pas de spécialistes ou pour lesquels les spécialistes sont trop peu nombreux; l'autre serait de donner les régions géographiques incomplètement etudiées par les spécialistes. Ces indications seront précieuses pour l'élaboration ultérieure de programmes de recherches et pour les études régionales. Pour ces raisons, tous les groupes de plantes seront renseignés dans les listes, qu'ils soient étudiés ou non par des spécialistes.

Le Dr. F. A. Stafleu, bien que très occupé par les travaux de l'I.A.P.T., a accepté de surveiller la compilation, la rédaction finale et la publication du répertoire des spécialistes. Mr. A. C. de Roon fonctionnera partiellement comme éditeur.

On peut prévoir qu'il faudra environ 18 mois pour réunir les informations et on espère que la publication sera terminée d'ici deux ans. Chaque membre régulier et institutionel de l'I.A.P.T. en recevra un exemplaire gratuit.

En ma qualité de Président de l'I.A.P.T. je voudrais en appeler à tous les botanistes du monde pour qu'ils coopèrent effectivement à faire de ce répertoire le meilleur du genre. Aussi, j'ose espérer que chaque taxonomiste remplira dûment le questionnaire qu'il va recevoir et qu'il le renverra au plus vite à l'I.A.P.T. à Utrecht.

AUGUSTE CHEVALIER

1873 - 1956

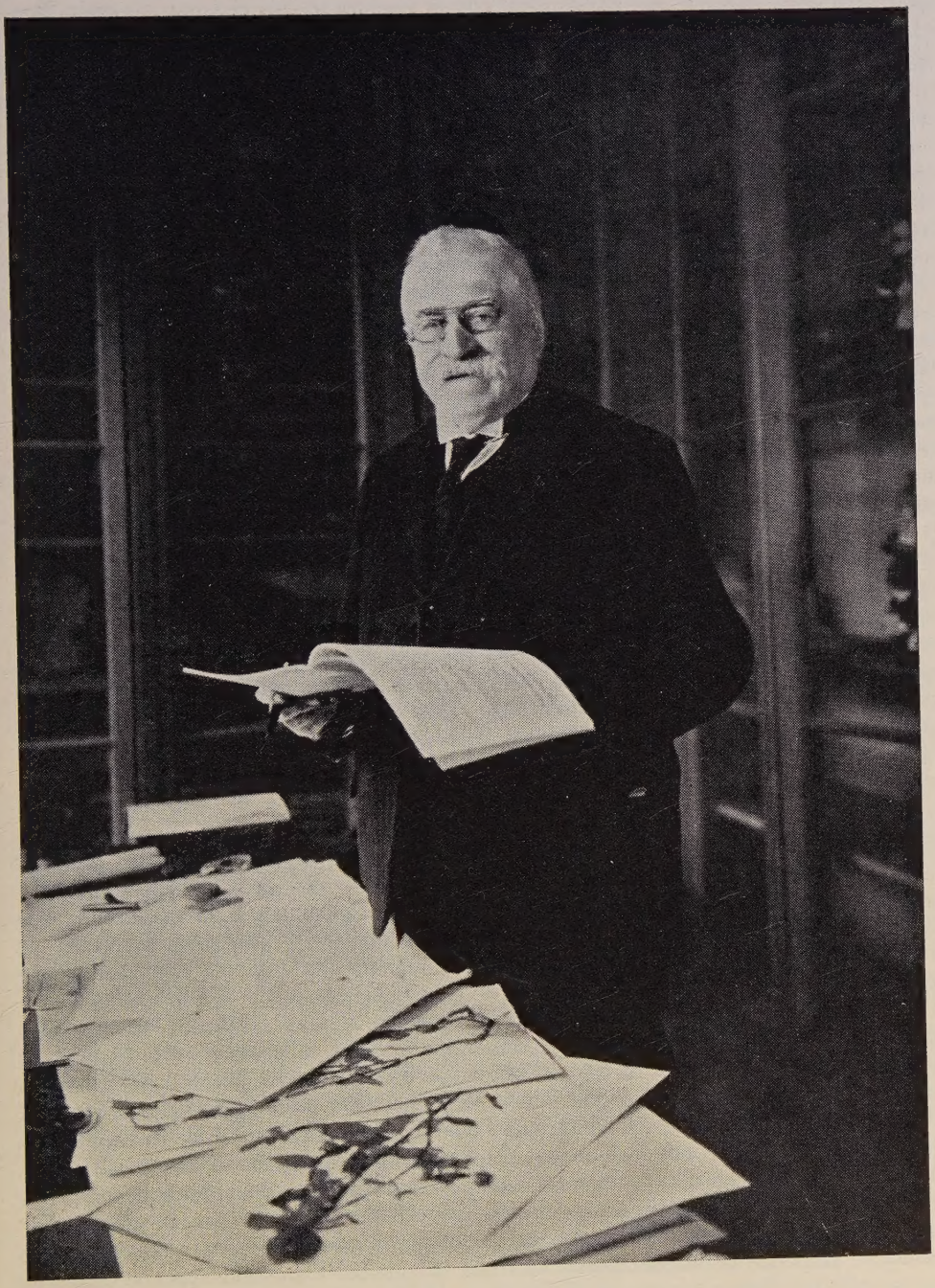
H. Jacques-Félix (Nogent-sur-Marne)

Le Professeur Auguste CHEVALIER s'est éteint dans la nuit du 3 au 4 juin à l'âge de 83 ans; le lundi précédent il assistait encore à la Séance de l'Académie des Sciences.

L'Histoire le retiendra parmi les plus grands explorateurs-naturalistes de l'Afrique et parmi les meilleurs savants botanistes de notre époque.

Au début de ce siècle de vastes régions d'Afrique intertropicale étaient encore totalement inconnues. On ne savait rien, ni des profondes forêts d'Afrique équatoriale et de Côte d'Ivoire, ni des immenses savanes de l'Afrique occidentale, ni des vastes bassins qui alimentent le Tchad de leurs eaux. De prestigieux naturalistes, comme ADANSON pour le Sénégal, comme AFZELIUS pour le Sierra Léone, comme MANN pour le Cameroun, n'avaient exploré que des territoires restreints.

Pour ceux de ces pays qui venaient de passer sous tutelle française, A. CHEVALIER allait être, à partir de 1898 et pour plus d'un demi siècle, le Prince de la botanique, tour à tour explorateur, géographe, descripteur. Il parcourut non seulement l'Afrique, mais aussi l'Asie tropicale et le Brésil, au cours de vingt et quelques missions scientifiques intensément remplies et seul son ultime voyage en 1950, alors qu'il avait 77 ans, fut surtout une triomphale tournée commémorative. Il n'est pas



AUGUSTE CHEVALIER

exagéré de dire que des grands naturalistes africains de son époque il en est peu à avoir pû assumer une tâche matérielle et une oeuvre écrite aussi considérables.

On a vu plus souvent des voyageurs, certes émérites, se décharger de leurs matériaux entre les mains de botanistes sédentaires et contribuer ainsi à une progression vigoureuse de la floristique. En ce qui concerne la géographie de la végétation une expérience personnelle apparaît plus indispensable à celui qui prétend oeuvrer dans cette science. Comme l'a souvent indiqué A. CHEVALIER au cours de sa carrière, il se fut volontiers limité à l'exploration et à la phytogéographie. Pour n'avoir pas servi exclusivement la discipline de sa prédilection du moins l'a-t-il brillamment illustrée. Dès 1900, après un minutieux dépouillement de ses carnets de route et de ses récoltes, il définit, en une vaste rétrospection de ses randonnées déjà nombreuses, "*Les zones et les provinces botaniques de l'Afrique occidentale française*". En 1911 il publie une "*Carte botanique, agricole, forestière et pastorale de l'Afrique occidentale française*" au 1/3.000.000° sur laquelle s'est appuyée toute la cartographie ultérieure. Ces données, reprises et complètées 33 ans plus tard sous le titre de "*Le territoire géo-botanique de l'Afrique tropicale nord occidentale, ses subdivisions*", sont et resteront classiques. Cette même expérience, étendue à l'Asie des moussons et à l'Amérique du sud, lui a permis d'écrire de main de Maître la partie phytogéographique du grand traité de "Géographie physique" de DE MARTONNE.

Dès ses premiers voyages il décèle l'importance des facteurs humains, et très particulièrement la nocivité des feux sauvages, sur la dégradation de la végétation des zones soudano-guinéennes et affirme le caractère paraclimacique des groupements végétaux qui constituent les savanes boisées. De même, il dénonce le mythe de la forêt vierge et reconnait à leur composition floristique les massifs réellement primitifs des étendues plus vastes secondarisées à des époques plus ou moins reculées par les défrichements culturaux. Très tôt, la préservation de la Nature, par une mise en valeur rationnelle des ressources, lui parait un impératif urgent dont il sera inlassablement l'ardent défenseur.

Avant d'insister plus particulièrement ici sur son oeuvre de descripteur il me parait utile de souligner ses qualités de collecteur, lesquelles ne paraîtront pas subalternes aux taxinomistes qui connaissent la valeur documentaire des herbiers et leur caractère irremplaçable pour la typification des *taxa* proposés par les auteurs. Dans des conditions souvent fort difficiles CHEVALIER a su rassembler une masse considérable de matériaux, toujours parfaitement préparés, étiquetés et conservés, concernant aussi bien les herbiers eux-mêmes que les échantillons de bois prélevés sur les mêmes arbres et qui les complètaient. La xylothéque Auguste CHEVALIER ainsi rassemblée sur ces bases solides a non seulement permis aux anatomistes du bois d'effectuer des recherches utiles à la science et à l'industrie, mais elle permet et permettra encore longtemps d'éclaircir tels points restés obscurs de la nomenclature dendrologique. S'il se fait bûcheron pour inventorier les géants de la forêt, dont il décrira de nombreuses espèces, il pratique aussi les investigations les plus minutieuses et découvrira le chlorotique *Sciaphila africana* première Triuridacée connue d'Afrique. La notation immédiate des observations, des renseignements oraux, l'étiquetage précis des récoltes, sont certes la Régle d'or du voyageur-naturaliste mais son application rigoureuse exige une tenacité jamais relâchée, alors que la fatigue appelle au repos et conseille l'abandon. Aucune difficulté ne le rebutait. S'il se trouve par exemple que 5 des 9 *Raphia* d'Afrique occidentale ont été décrits par CHEVALIER cela ne tient pas à quelque difficulté taxinomique inhérente à ce genre, mais à ce simple fait que personne avant lui ne s'était astreint à récolter les encombrants spadices de ces Palmiers. Dans son Service,

CHEVALIER savait exiger que le soin qu'il apportait à la manipulation des herbiers soit partagé par ses collaborateurs. Cette méticulosité ne paraîtra pas non plus dérisoire aux lecteurs de Taxon alors que certains travailleurs, par leur attitude méprisante à cet égard, donnent à supposer qu'ils considèrent que les échantillons une fois examinés par eux, n'ont plus d'intérêt.

L'oeuvre taxinomique de CHEVALIER est imprégnée de l'attention qu'il portait aux plantes utiles et cultivées. En cette matière on passe aisément de la systématique à la biologie, à la technologie, à la culture, à l'historique etc. . . CHEVALIER a abordé tous ces sujets, par nécessité d'abord, puis par seconde vocation. On ne peut que jeter le jalon de ses recherches les plus importantes, publiées tout d'abord dans la collection des "Végétaux utiles d'Afrique tropicale": *Histoire de l'Agriculture* (1905); *Le Cacaoyer dans l'Ouest africain* (1908); *Les Bois de la Côte d'Ivoire* (1909); *Documents sur le Palmier à huile* (1910); *Les Kolatiers* (1911); *Manuel d'horticulture* (1913); *La forêt et les bois du Gabon* (1917). Par la suite on peut citer: *"Premier inventaire des bois et autres produits forestiers du Tonkin"* (1919) qui, ajouté aux travaux de prospection que CHEVALIER avait impulsés en Indochine, devait servir de base aux "Bois de l'Indochine" de LECOMTE; *"Etudes sur les prairies de l'Ouest Africain"* (1933); *"Monographie de l'Arachide"* (1936); *"Les Caféiers du Globe"* (1928—1947), où toutes les espèces de *Coffea* et des genres voisins ont été étudiées et dessinées. On doit ajouter, deux remarquables Monographies portant sur la phytogéographie, la flore, les ressources végétales et l'agriculture de deux territoires peu connus: *"Les ressources végétales du Sahara"* (1932); *"L'Archipel du Cap Vert"* (1935).

Les groupes de plantes utiles ou cultivées auxquels CHEVALIER s'est particulièrement intéressé, et dont la position systématique n'apparait pas aux citations précédentes, sont tout d'abord les Apocynaceae productrices de caoutchouc ou d'alcaloïdes, *Landolphia, Funtumia, Strophanthus, Carpodinus, Clitandra;* les *Gossypium;* les Rutaceae; les *Coleus* à tubercules alimentaires; les *Dioscorea;* les *Oryza* etc.... La diversité est naturellement plus grande parmi les essences forestières. Citons les Tiliaceae (*Cistanthera papaverifera* A. Chev.); les Sterculiaceae (*Mansonia altissima* A. Chev.); les Bombacaceae; les Mimosaceae (*Acacia, Parkia, Zingana,* etc....); les Meliaceae (*Kaya ivorensis* A. Chev.); et surtout les Sapotaceae (*Chrysophyllum, Pachystela, Delpydora, Omphalocarpum, Dumoria* A. Chev., etc....).

Plusieurs des découvertes botaniques de A. CHEVALIER ont connu le succès comme plantes économiques. Tout d'abord de multiples essences forestières, tel surtout l'Acajou d'Afrique *Kaya ivorensis,* et aussi le *Coffea excelsa* dont la carrière est fort honorable. Mais jamais CHEVALIER n'a cherché à imposer la fortune de tels objets de ses recherches. Bien qu'ayant étudié avec soin les *Landolphia* et leurs possibilités comme plantes à latex, il n'hésite pas à faire connaître aux sphères dirigeantes que la culture doit remplacer la cueillette et qu'à cet égard des arbres introduits comme l'*Hevea* seraient de beaucoup préférables aux *Landolphia* du pays.

A. CHEVALIER ne prétendait aucunement à l'étude exclusive de ses riches moissons. Pour ne parler que du dépouillement de ses récoltes phanérogamiques il a sollicité de nombreux spécialistes et obtenu le concours de botanistes éminents: SCHINZ (Capparidaceae, Gentianaceae); CHODAT (Polygalaceae); ENGLER (Violaceae, Burseraceae, Anacardiaceae, Araceae); C. DE CANDOLLE (Meliaceae); DIELS (Combretaceae, Scrophulariaceae); HUA (Rubiaceae); C. B. CLARKE, CHERMEZON, KUKENTHAL, (Cyperaceae); GUILLAUMIN (Burseraceae); HOFFMANN, MUSCHLER (Compositae); LINDAU, BENOIST (Acanthaceae); BEILLE, HUTCHINSON (Euphorbiaceae); GAGNEPAIN (Marantaceae, Musaceae); STAPF, REZNIK (Gramineae); HARMS (Léguminosae);

Briquet (Labiatae); Hutchinson (Rhamnaceae); Swingle (Rutaceae); Hochreutiner (Malvaceae); Gilg (Melastomataceae).

Mais on sait bien ici que le Spécialiste est d'une espèce aussi rare que précieuse et Chevalier a dû s'attacher aux déterminations de ses matériaux, dont il s'était d'ailleurs réservé certains groupes, avec son acharnement habituel. Là aussi on ne peut que citer les ouvrages les plus importants. Tout d'abord les Catalogues de ses récoltes: "*Sudania*" (1911—1914); "*Etudes sur la Flore de l'Afrique Centrale française*" (1913) et "*Exploration botanique de l'Afrique occidentale française*" (1920), ouvrages irréprochables en ce que les numéros des herbiers sont toujours cités et permettent le contrôle des noms proposés. D'autre part les descriptions de *taxa* nouveaux, genres et espèces, par différents spécialistes et lui-même, firent l'objet de plusieurs recueils: "*Novitates Florae Africanae*" (1907—1917); "*Diagnoses Plantarum Africae*" (1909).

La science ne retiendra pas tous les noms proposés par lui, ou par d'autres, dans ces Recueils et dans des publications ultérieures. Ce sont là les modestes rançons inhérentes aux oeuvres pionnières que la croyance légitime en des identités moins répandues entre flores éloignées et l'insuffisance de matériaux de transition dans les espèces polymorphes, rendaient inévitables.

Ajoutons qu'en dehors des objets auxquels nous avons brièvement fait allusion, Chevalier s'attachait aux groupes intéressants par leur biologie comme les *Euphorbia* et Asclepiadaceae crassulescentes, les *Raphia*, les Cyperaceae dracoïdes, les Podostemonaceae etc. et aussi à la flore orophile du Fouta Djallon dont il fait, le premier, connaître les éléments et les liaisons avec la flore des autres hauts sommets africains.

Directeur jusqu'en 1939 du Laboratoire d'Agronomie tropicale et Chef de la Mission permanente d'Etudes des Cultures et Jardins d'Essais coloniaux, il devait, et il fit avec ardeur, se consacrer plus spécialement aux plantes cultivées. Personnellement il continuera de s'y intéresser par des recherches et par des études qui paraîtront surtout dans un périodique de réputation mondiale "*La Revue de botanique appliquée et d'agriculture tropicale*", fondée par lui en 1921 et qu'il devait animer jusqu'en 1953.

Professeur au Museum en 1929 et conservant la Direction du même laboratoire, l'activité de Chevalier en tant que botaniste descripteur allait s'affirmer. Projetant l'élaboration d'une Flore de l'Afrique tropicale française, il revoit ses notes, ses herbiers, ceux de ses correspondants, et publie révisions et nouveautés, soit dans le Bulletin du Museum, soit dans sa R.B.A. En 1938 le premier volume de la "*Flore Vivante*", auquel j'eus l'honneur de collaborer, paraissait et faisait bien augurer de l'ampleur du projet. Malheureusement la guerre allait non seulement différer cette entreprise mais aussi l'anéantir. Ces quelques six années d'interruption ne pouvaient être que fort lourdes pour Chevalier, déjà âgé alors de 73 ans, et, en absence d'un organisme permanent responsable, la "Flore vivante" fut abandonnée.

Célébré en 1947, son Jubilé scientifique, auquel s'associèrent les plus éminents botanistes et biologistes du Monde, devait sensiblement marquer le terme d'une carrière prodigieusement bien remplie. Il devait cependant continuer jusqu'à la fin de dépouiller les publications scientifiques qui lui étaient adressées et d'assister régulièrement aux Séances de l'Académie des Sciences dont il fut Président en 1953.

Nous ne saurions citer toutes les espèces que les systématiciens descripteurs ont dédié à Chevalier d'après ses matériaux ou en hommage à sa valeur. Le nom de *Chevaliera* étant déjà préoccupé d'autres genres contribueront cependant à perpétuer sa mémoire: *Chevalierella* A. Camus (Gram.), *Neochevaliera* Beille

(Euphorb.), *Chevalierodendron* Leroy (Morac.), *Neochevalierodendron* Leonard (Cesalp.), etc....

Avec Auguste CHEVALIER disparaît le type même de l'explorateur naturaliste que le siècle dernier pouvait encore permettre. Robuste défricheur de flores encore vierges, puisant dans l'exaltation de la découverte le renouvellement de son énergie, partageant avec les savants de multiples disciplines des matériaux et observations par milliers, créant ici un Jardin botanique, là un Institut Scientifique, stimulant partout les jeunes vocations, dirigeant les forestiers, conseillant les planteurs, jamais CHEVALIER ne s'est inquiété, et n'a eu le temps à vrai dire, de raffiner où d'établir quelque théorie phylogénétique nouvelle. Lui reprochera-t-on?

Confondant en une même passion la joie de connaître la Nature et la joie de l'aimer il a, croyons nous, des deux voies qui s'offraient encore à lui à l'aube de ce siècle, choisi la plus belle.

FRERE LEON (JOSEPH SYLVESTRE SAUGET)

1871 - 1955

Frère Alain (Habana)

Il est toujours difficile de retracer en quelques lignes la vie des grands hommes; leurs multiples activités, les circonstances si diverses qui ont formé la trame de leur vie, constituent un tout très complexe, et ceux qui les ont connus dans les dernières années de leur carrière ne font qu'en soupçonner les débuts.

En 1905, la Flore de Cuba était encore fort peu connue. Les herborisations de Charles Wright entre 1856 et 1867 étaient à peu près les seules qui la donnaient à connaître d'une façon systématique. Une Flore avait été publiée par Don Ramón de La Sagra en 1850, et ensuite Grisebach avait étudié les récoltes de Charles Wright et publié son Catalogus Plantarum Cubensium en 1866. Une autre liste des Plantes de Cuba publiée par Francisco Sauvalle en 1869, et trés incomplète, formaient au commencement du siècle à peu près toute la littérature botanique cubaine. C'est alors qu'arrive Frère Léon.

Né en France, à Arbois dans le Jura, le 31 décembre 1871, après avoir fait ses études secondaires à Dijon, et étant entré dans l'Institut des Frères des Ecoles Chrétiennes, Frère Léon s'intéressa dès sa tendre enfance à l'étude de la végétation de son pays. Mais les labeurs de l'enseignement d'une part, son départ pour l'étranger d'autre part retardèrent ses travaux de Botanique. Il enseigne un an au Canada, en 1904—1905, puis arrive à La Havane le 10 septembre 1905. Presque aussitôt, ce naturaliste dans l'âme entrepend une collection d'insectes, puis il commence à s'intéresser aux plantes. Dans les alentours de La Havane d'abord, puis peu à peu dans les régions les plus éloignées de l'Ile, il commence à réunir un Herbier. Tout n'était pas facile au début; il envoie ses plantes au Professeur Charles F. Baker, alors résident à la Station Agronomique de Santiago de las Vegas, près de La Havane et reçoit avec les identifications de son premier paquet, des instructions sur la façon de rédiger les étiquettes et sur l'importance de la numération des exemplaires récoltés. En même temps, le Dr. Baker en partance pour l'Amérique du Sud conseille au Frère Léon d'envoyer ses plantes au Jardin Botanique de New York, où le Dr. N. L. Britton s'intéresse fortement aux plantes des Antilles, ou bien à Washington, où le Dr. Hitchcock et Mrs. A. Chase étudieront les Graminées, et le Dr. Maxon se chargera des Fougères. Dans ses temps libres, les jours de congé, et surtout durant ses vacances, Frère Léon continue à recolter des plantes

pour son Herbier. Peu à peu, ses excursions l'éloignent de La Havane où il a fait ses premières récoltes; elles seront d'ailleurs fructueuses, et il trouvera déjà plusieurs espèces nouvelles, principalement dans les brousses côtières et les terrains serpentineux, où les endémiques ne manquent pas.

Cette première étape de contact avec la Flore de Cuba se complète par des excursions à l'intérieur de l'Ile, dans la Province de Las Villas, et dans celle d'Oriente, où il commence à se familiariser avec les plantes des montagnes. Il n'a pas encore de bibliothèque de Botanique, car — c'est souvent le cas parmi les botanistes — il n'a pas d'argent pour se procurer même les livres les plus essentiels. Toutes ses plantes sont donc envoyées à New York, où le Dr. Britton les identifie, les fait coller et les lui renvoie tout en gardant un exemplaire pour l'Herbier du Jardin Botanique: son Herbier commence ainsi à prendre de l'importance. En 1912, il a déjà récolté autour de 3500 numéros, et déjà nous trouvons parmi ses plantes un nombre considérable de Graminées. Cette famille sera sa première spécialité, et il aura la joie d'ajouter nombre d'espèces à la Flore de l'Ile, soit nouvelles pour la science, soit pour le pays.

En 1912, durant l'été, Frère Léon a l'occasion d'herboriser dans les montagnes à l'Ouest de La Havane, dans la province de Pinar del Río, avec John A. Shafer, envoyé par le Dr. Britton à Cuba. A ce moment, le Jardin Botanique de New York s'intéresse à la Flore de Cuba, et le Dr. Britton aidé de Percy Wilson a en projet la publication d'un Catalogue des Plantes de Cuba, avec clés analytiques pour les genres et les espèces. Dans ce but, Mr. Shafer vint durant plusieurs années herboriser à Cuba, dans les régions moins explorées de l'Ile, récoltant bon nombre d'espèces nouvelles. En Août 1912, Frère Léon accompagna Shafer à Sumidero, et se mit en contact avec une florule très spécialisée, celle des montagnes calcaires appelées „mogotes".

En 1913, durant l'été, Frère Léon va jusqu'à l'Est de l'Ile, dans les montagnes, et trouve bon nombre d'espèces rares. Il a aussi l'occasion de passer par la brousse côtiere et de faire d'intéressantes observations sur la Flore très spécialisée qui y pousse. Il s'arrête aussi en chemin dans les montagnes du centre de l'Ile, déjà visitées 4 ans auparavant.

L'année 1914 commence pour notre botaniste une seconde étape. Il connaît déjà assez bien les plantes de Cuba, et commence à penser aux régions peu explorées, qui probablement donneront bien des espèces inconnues pour la science. C'est alors que lui arrive d'Europe un botaniste de race, qui durant 10 ans va parcourir l'Ile, découvrant près d'un millier d'espèces nouvelles, visitant des régions presque inaccessibles, herborisant à fond, ne laissant pratiquement rien qui n'ait été récolté par lui dans les régions qu'il visite. Travailleur acharné et très original, il va céder au Frère Léon ses méthodes de travail, lui communiquer son enthousiasme et sa hardiesse. Ce botaniste est Eric L. Ekman, qui vient de Suède, et se dirige vers l'Amérique du Sud. Mais les communications sont rares, et il est dur pour un botaniste de rester assis dans un hôtel quand on a du temps à perdre, et que les plantes intéressantes sont facilement accessibles. Mis en relations avec Frère Léon par une lettre d'introduction du Dr. Britton, Ekman guidé par le seul qui connaisse assez bien les endroits d'herborisation, commence lui aussi à récolter dans les environs de La Havane. Aussitôt intéressé par les plantes qu'il trouve, il lui est difficile de s'arracher à Cuba, et c'est ainsi qu'à l'encontre des ordres reçus d'Europe, il restera jusqu'en 1924, allant plus tard continuer ses recherches en Haiti et à Saint Domingue, ou il mourra en 1931.

A partir de ce moment, Frère Léon va réaliser des explorations fructueuses dans les montagnes de l'Ouest et du centre de l'Ile. Ses étroites relations avec New York

s'accentuent, et après la publication de plusieurs travaux scientifiques de premier ordre, Frère Léon commence à collaborer à la préparation du manuscrit du Catalogue de la Flore de Cuba, dont Britton le considère comme co-auteur.

A cette époque aussi, commence à croître l'intérêt du Frère Léon pour les Mousses, et ses collections de 1914 à 1924 en comprennent un bon nombre d'espèces, dont quelques-unes nouvelles pour la science. Il publia en 1933 un Catalogue des Mousses de Cuba.

L'année 1915 le mène durant les mois d'été dans les montagnes de Banao, au centre de Cuba; là, durant une quinzaine de jours, il récolte un grand nombre de plantes dont plusieurs furent ensuite décrites par Britton comme nouvelles pour la science. En 1916, il put accompagner durant quelques jours le Dr. Britton à l'Ile des Pins, partie du territoire cubain, située au sud de la Province de La Havane. Puis il retourne dans les montagnes de Banao pendant l'été pour y continuer ses recherches et y faire plusieurs trouvailles très intéressantes. C'est aussi vers la fin de 1916 que Frère Léon fit une découverte qui restera dans sa vie de botaniste comme un de ses meilleurs souvenirs: il recueillit dans les savanes de l'Ouest de l'Ile, une Graminée avec laquelle Hitchcock créa un genre nouveau, qui lui fut dédié sous le nom de *Saugetia*. Si le Frère Léon avait été jusqu'à ce moment enthousiasmé par les Graminées, à partir de ce moment, il devint un grand récolteur de ces plantes, et un des meilleurs agrostologistes des Antilles. Même jusqu'en 1928, un de ses soucis dans ses excursions fut de récolter des Graminées. Aussi quand Hitchcock et Chase publieront en 1936 leur "Manual of the Grasses of the West Indies", les espèces cubaines y seront-elles représentées par un bon nombre de citations des collections de Frère Léon, ainsi que d'Ekman, qui, lui aussi, était un grand récolteur de Graminées.

En 1917, nous le trouvons surtout dans les savanes de l'Ouest de Cuba, et l'année 1918 le ramène vers Banao, dans le centre de l'Ile, où il trouve d'autres espèces rares ou nouvelles.

C'est alors que les efforts du Frère Léon vont se porter, durant plusieurs années, vers les montagnes orientales, dont la Flore était encore très peu connue. En 1921, il passe près d'un mois à la „Loma del Gato", à 1000 mètres d'altitude, dans une forêt tropicale très dense, rapportant bien des raretés; puis, en 1922, a lieu sa grande expédition en compagnie d'Ekman, pour arriver à la plus haute cime de l'Ile, vers les 2000 mètres. Il n'y avait aucun chemin: Ekman, le seul ayant déjà fait ce trajet, guidait l'expédition, ouvrant la brousse à la machete (grand couteau servant surtout à couper la canne), à travers les Fougères arborescentes. Après près d'un mois d'herborisations, nos deux botanistes revenaient avec plus de 50 espèces nouvelles, et des observations précieuses sur la zonation de la végétation en haute montagne. Les plantes récoltées par Frère Léon furent étudiées à New York par Britton, et celles d'Ekman par Urban à Berlin. Ceci occasionna quelques difficultés, surtout lorsqu'il s'agissait d'un exemplaire unique: c'était une véritable course, pour qui l'aurait le premier. Mais en général, les choses marchèrent pour le mieux, et les résultats botaniques furent remarquables.

En 1924, Frère Léon se dirige vers l'extrémité orientale de Cuba, région encore inexplorée. En 3 semaines de travail intense, il put explorer un territoire immense, très sec, à peine pratiquable par des sentiers mal entretenus, des montées à pic, lors d'une expédition mémorable, aussi bien par les difficultés rencontrées, que par la rareté des plantes récoltées.

C'est à ce moment qu'il faut terminer la première étape botanique du Frère Léon. Jusqu'alors il avait envoyé toutes ses plantes à Britton et avait collaboré à la rédaction du Catalogue des Plantes de Cuba. A présent, et avec les résultats de ses

dernières grandes explorations, il va recevoir les dernières additions au Catalogue. Avec les clés analytiques, il pourra désormais identifier ses propres plantes, d'autant plus que son Herbier est dorénavant le meilleur de Cuba. Armé de ces deux instruments, Frère Léon espère bien décrire lui-même les espèces nouvelles qu'il pourra désormais récolter. En cela, il se trompait, mais qui pouvait prévoir les événements? Sa vie fut trop courte pour finir ce travail.

Le premier obstacle à la publication du Manuscrit fut le travail d'Ekman et d'Urban. En effet, en 1924, quand Britton pensait pouvoir imprimer son manuscrit, on commença à publier à Berlin, soit dans le Fedde Repertorium, soit dans le Symbolae Antillanae, des centaines d'espèces nouvelles ramassées par Ekman durant son séjour d'une dizaine d'années à Cuba. Cela changeait tout le travail de Britton et l'obligeait à une révision à fond de ses clés analytiques; à ce moment-là, Britton avait déjà entrepris la rédaction de la Flore de Puerto Rico et n'avait plus le temps de s'occuper de réviser son Catalogue des Plantes de Cuba. Le Catalogue resta donc inédit, avec deux copies à New York et une en possession du Frère Léon, celle qui lui servira de base lorsqu'il entreprendra la rédaction de la Flore de Cuba.

Ensuite, à partir de 1924, Frère Léon se consacre entièrement à l'étude des Graminées de Cuba. On prépare activement à Washington un travail systématique sur les Graminées de Cuba, puis sur celles des Antilles, et les plantes et les observations du Frère Léon aideront grandement à la rédaction du manuscrit. Donc, entre 1924 et 1928, peu d'excursions de grande envergure; sorties coutumières les jours de congé, et exploration de deux nouvelles localités: les montagnes de Rangel dans l'Ouest de La Havane, et les formations serpentineuses de Matanzas à l'Est.

Puis en 1928 commence l'étude des Palmiers de Cuba. Cette famille était alors très peu connue à Cuba. Il est en effet assez difficile d'étudier les Palmiers, car leur hauteur, leurs feuilles et inflorescenses parfois gigantesques, les diverses époques de floraison sont des obstacles à l'étude botanique. Il faut trouver quelqu'un qui veuille bien monter à la cime de l'arbre, couper les feuilles et descendre les régimes de fleurs ou de fruits: tout cela demande du temps, de l'effort, de l'argent. Ensuite il faut revenir avec un paquet d'exemplaires très volumineux et parfois embarassant pour le botaniste qui doit dépendre des transports publics pour ses déplacements. Toutes ces raisons expliquent pourquoi les Palmiers de Cuba étaient très peu connus au moment ou Frère Léon commença à les étudier vers 1928. Ses recherches le menèrent dans les savanes des terrains serpentineux, où croissent les espèces rares ou endémiques. A partir de 1931, il publiera une série de travaux où apparaissent comme résultats de son étude consciencieuse, des mises au point sur certaines espèces, et des descriptions d'espèces nouvelles. Ces publications sur les Palmiers, l'oeuvre la plus complète qu'il ait laissée, se continueront jusqu'en 1945, à la veille de la publication du premier volume de la Flore de Cuba. Les genres étudiés par lui sont: *Copernicia*, *Coccothrinax*, *Calyptrogyne*, *Acrocomia*, *Hemithrinax*, et *Roystonea*, portant le nombre des espèces cubaines d'une quarantaine à 77, avec de nombreuses variétés toutes décrites par lui. Cependant, le temps lui manqua pour compléter l'étude des genres *Sabal* et *Thrinax*.

Dans les premières années de 1930 à 1940, son attention fut attirée par les Cactus, qui eux aussi étaient assez mal connus où plusieurs espèces étaient dans une position taxonomique assez confuse. Il avait déjà eu l'occasion de récolter une espèce décrite par Britton sous le nom de *Leptocereus leonis;* ensuite, à une centaine de kilomètres à l'Est de La Havane, il avait trouvé une espèce non décrite, et dont la mort de Britton, survenue en 1934, lui permit d'entreprendre l'étude. Il publia donc, cette même année 1934, un article sur le genre *Melocactus* à Cuba, avec les descriptions de 3 espèces nouvelles. Ensuite vint une note sur une confusion dans le genre *Lepto-*

cereus; il n'eut pas le temps de continuer l'étude de cette famille, mais il a laissé un grand nombre de notes et de dessins en couleurs, qui ont servi à la rédaction du manuscrit de cette famille pour le 3e. volume de la Flore de Cuba.

C'est à la veille de 1940, alors qu'il approchait de 70 ans, qu'il entreprit de mettre par écrit son expérience taxonomique, commençant à rédiger le premier volume de la Flore de Cuba. Mais entre temps, débutait une nouvelle étape dans la vie du Frère Léon. Fin 1938, en effet, arrive à La Havane un éminent botaniste canadien, Frère Marie-Victorin, lui aussi des Ecoles Chrétiennes, auteur de plusieurs brochures sur la Flore du Canada, auteur de la Flore Laurentienne, fondateur et Directeur de l'Institut et du Jardin Botaniques de l'Université de Montréal. Ensemble, ils vont parcourir l'Ile, rédigeant en un français savoureux le récit de leurs voyages, émaillé d'anecdotes ou d'observations sur les coutumes locales, et publiant trois volumes abondamment illustrés intitulés: "Itinéraires Botaniques dans l'Ile de Cuba"; le troisième volume vient juste de paraître (1956) suivant à peine de deux mois le décès du Frère Léon. La présence de Frère Marie-Victorin fut pour Frère Léon l'occasion d'une série d'herborisations en compagnie de son illustre confrère: il lui montra autant qu'il fut possible, les différentes formations végétales, nommant les plantes la plupart du temps sur le terrain même. Le fruit de ces recherches a été hautement apprécié par les botanistes et même par le public, car c'est un ouvrage original, intéressant et d'une science agréable.

C'est aussi en 1940 que commença pour Frère Léon et ses collaborateurs l'exploration aussi fouillée que possible d'une région d'un endémisme extraordinaire, située au Nord de la partie orientale de Cuba, et qui a été appelée les "montagnes de fer". Le sol, en grande partie constitué de limonite avec affleurement de serpentine, a donné lieu, par isolement, à une grande quantité d'espèces d'un endémisme très restreint. Les plantes rares ou nouvelles abondent dans la région et Frère Léon passa des moments bien agréables à herboriser dans les pinèdes de Nipe et de Moa, décrivant ensuite nombre de nouveautés.

Cette dernière étape de la vie active du Frère Léon est aussi la plus féconde; il publie de nombreux articles de botanique et s'occupe activement du premier volume de la Flore de Cuba. Après le décès de Frère Marie Victorin en 1944, Frère Léon a plus de loisirs et en 1947 enfin, il a la joie de voir imprimée la première partie de son oeuvre capitale. Dur labeur que celui de rédiger une Flore! Sans accès aux grands herbiers, avec une bibliotheque nécessairement limitée, Frère Léon n'ose pas entreprendre ce travail. Au début, il a en vue de rédiger seulement une Flore de la province de La Havane. Mais pourquoi ne pas mentionner, ne fût-ce que par le nom, les autres espèces cubaines? Une fois décidé, pourquoi ne pas ajouter une très courte description? C'est ainsi que, peu à peu, il en arrive à inclure toutes les espèces cubaines, mais présentant seulement les clés analytiques pour les espèces de la province de La Havane; les autres espèces, en principe, auraient une description très courte. Ce premier volume comprenait toutes les Monocotylédones.

Après le premier volume, il faillait commencer le second. L'expérience acquise lui permit d'aller un peu plus vite, et c'est ainsi qu'en 1951, s'imprimait le 2e. tome, traitant des premières familles des Dicotylédones, jusqu'aux Meliacées. Déjà sa vue baissait. Il eut une aide du Gouvernement cubain, et une secrétaire venait mettre au propre ses manuscrits; il eut aussi l'aide de l'auteur de cette biographie, et le livre put être imprimé.

Depuis ce moment, l'oeuvre du Frère Léon est pratiquement terminée. Miné par la maladie, presque aveugle, ce vieillard de 80 ans souffrira de son inactivité forcée. Lui, qui de toute sa vie n'a pas connu le repos, ne se résignera pas à abandonner son travail. Même quand ses forces défaillantes lui interdisaient les moindres efforts,

il faisait des projets pour les jours ou il se sentirait mieux. Quoique depuis près de quatre ans avant son trépas, il n'ait pu faire aucun travail de valeur, on peut dire que la mort est venue le surprendre le 20 Novembre 1955, et que ces années d'inactivité ont été pour lui un tourment moral que peu d'âmes arrivent à éprouver.

Il put encore voir le troisième volume de sa Flore, quoique n'ayant pas travaillé directement à sa rédaction; les deux volumes restants se publieront à mesure qu'ils seront prêts, et seront un monument à la mémoire de ce grand savant et infatigable investigateur.

Nombre de Sociétés scientifiques tant cubaines qu'étrangères ont considéré comme un honneur de le compter parmi les leurs. Membre du Torrey Botanical Club de New York, de l'Académie des Sciences de Washington, de celle de Bogotá, de la American Association for the Advancement of Science, de la Cactus & Succulent Society, de la Société Linnéenne de Lyon, de la American Association of Plant Taxonomists, il était aussi membre d'honneur de la Botanical Society of America. A Cuba, il appartenait à la Sociedad Cubana de Historia Natural Felipe Poey, de laquelle il fut vice-président et ensuite Président d'Honneur. L'Académie des Sciences de La Havane le compta parmi ses membres distingués et le fit Académicien de Mérite. Il fut membre fondateur de la Sociedad Cubana de Botánica, et peu après membre de Mérite. Il appartenait aussi à la Société cubaine d'Orchidées, à la Sociedad Forestal de Cuba, et fut nommé Président d'Honneur de la Sociedad Malacológica de Cuba. La Sociedad Geográfica de Cuba, dont il fut un des fondateurs, récompensa ses travaux par une médaille d'or. Le Gouvernement Cubain lui accorda la récompense d'être nommé Officier de l'Ordre National de Mérite "Carlos Manuel de Céspedes", et le Gouvernement Français lui décerna le titre d'Officier d'Instruction Publique. L'Université de Harvard l'ayant nommé Research Associate, il disposa durant trois ans d'une bourse du Milton Fund, pour l'aider dans ses recherches sur la Flore de Cuba.

Déjà en 1927, Frère Léon avait été à New York, recevoir le titre de Docteur Honoris Causa ès Sciences à l'Université de Columbia et l'Université de La Havane, à son tour, l'honora du titre de Docteur ès Sciences Naturelles Honoris Causa, dans une émouvante cérémonie, le 19 Octobre 1951.

L'oeuvre scientifique du Frère Léon est résumée par quelques 70 titres d'articles ou livres qui font preuve de son haut esprit d'investigation. Son nom restera comme celui d'un des grands Naturalistes cubains, et comme un symbole de travail assidu et de probité scientifique.

HEDWIG'S SPECIES MUSCORUM AND ITS EFFECTIVE DATE OF PUBLICATION

Leo Francis Koch[1] **and Howard A. Crum**[2]

The recent announcement (Taxon 5:22—23; Revue Bryologique et Lichenologique 24:383—385) of the imminent compilation of an *Index Muscorum* serves to emphasize the necessity of arriving at a general agreement among bryologists as to the merit of present nomenclatural regulations. If any changes in the international rules are contemplated, these should be anticipated by the editors of the *Index Muscorum* so that their labor and that of their assistants will not be

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nullified to any appreciable extent by future decisions governing nomenclature. With this understanding, the decision of the International Congress on Botanical Nomenclature to establish 31 December 1801 as the effective date of publication of Hedwig's *Species Muscorum* must be reviewed for it is ill advised in several respects.

Granting the wisdom of the decision of the Stockholm Congress in 1950 to adopt a conventional date rather than to attempt the discovery of the actual date of publication of the *Species Muscorum*, certain conclusions follow logically. Realizing the arbitrary nature of the decision, we have the freedom to establish a date whose practical consequences are as beneficial as possible to all. Obviously, our intention should be to choose one which will necessitate the fewest changes in the established nomenclature. Either of the dates, 1 January 1801 or 19 April 1801, the actual date as proposed by Dr. Geneva Sayre (The Bryologist 58:76), would be preferable to 31 December 1801 for this reason.

Since 1935, most bryologists have accepted the *Species Muscorum* as the starting point for the nomenclature of the Musci except *Sphagnum*. But at the same time, binomials of species, not treated by Hedwig but published during 1801 in other muscological works, have also been accepted as valid. In effect, Hedwig's *Species Muscorum* has had priority as if it had appeared the 1'st of January 1801. This interpretation was both practical and logical, and seemed to obviate the necessity of setting an arbitrary date. In the interim, many hundreds of manhours have been spent unravelling the identity of the mosses described as new in the publications which appeared in 1801. It so happened that 1801 includes the date of publication of at least six bryological contributions. If we now abide by the date, 31 December 1801, all of them will be outlawed for nomenclatural purposes, and the mosses described as new in them necessarily will become involved in changes of citation, and perhaps also of name. As a result, much of the nomenclatural research of the last 20 years will have been for naught, and we are expected to begin once more not too far from the point at which we began in 1935.

Anyone who has studied the bryological works of the early nineteenth century must realize that most authors subsequent to Linnaeus and Hedwig prior to 1850, often used their names for mosses belonging in wholly different taxa. Hedwig himself used Linnaean names of European species for a number of American mosses which are not identical, and sometimes were of different genera (i. e. *Hypnum illecebrum*). This is precisely the kind of confusion which we can expect to encounter whenever we rely upon second-hand descriptions which are not derived from authentic specimens. Needless to say, at that time there were no type specimens, nor any realization that the specimens, rather than printed descriptions, are the final criterion.

Among the other publications of 1801, compiled by Dr. Sayre, two are of particular importance. These are J. Dickson's *Fasciculus Quartus Plantarum Cryptogamicarum Britanniae* and a part of S. E. Bridel's *Muscologia Recentiorum*. Under the present rule, at least eleven names proposed by Dickson, or at least the citation for them, will be changed. According to a personal communication from Dr. Sayre, Bridel in 1801 named some 120 mosses about half of which are not in Hedwig's *Species Muscorum*. Although the remaining publications mentioned by Dr. Sayre contain fewer names of interest, the total effect of eliminating all of them will be of serious proportions.

The opinion of Dr. Sayre is that the choice of 31 December 1801 was made in order to avoid the necessity of establishing the chronology of the 1801 publications. Now that Dr. Sayre has accumulated the evidence necessary to arrange them in

their probable order of appearance, the substance of this argument is dissolved. The 31 December date appears to serve no useful purpose and creates a great deal of needless turmoil in nomenclature. This is the exact opposite of the intention with which rules are created ordinarily.

The question of choosing an arbitrary date for the starting point of muscological nomenclature rather than the actual date of the *Species Muscorum* also needs discussion, if for no other reason than to justify the present course of action. The *Species Muscorum*, as the starting point for muscological nomenclature is a wise choice, but nevertheless an arbitrary one. Thus there is no significance in the use of an actual date of publication unless it proves to be more expedient than others — especially so, as the actual date of publication does not appear on the title page of the *Species Muscorum*, and, even if it did, would need to be corroborated.

According to Dr. Sayre, three publications are known to have appeared in 1801 prior to the *Species Muscorum* but none of them involves an appreciable number of binomials now in current use in nomenclatural changes. For instance, Withering's *Systematic Arrangement of British Plants* apparently contains only one, *Phascum rectum*, which has been in constant use, although several others have been resurrected in the last decade. From this point of view, little can be gained by argument over a choice between the two earlier dates.

An advantage of the date, 1 January, over that of 19 April is that any publication bearing the year, 1801, qualifies for nomenclatural considerations. As a consequence, only a *relative* chronological sequence for them is needed. Their disposition might affect their priority among those considered for nomenclatural purposes, but could not mean that they might be rejected completely. On the other hand, the adoption of 19 April would necessitate the determination of a paper's appearance either before or after that particular day in the year. Furthermore, for many of those early papers a precise date cannot be established without taking the chance that the chosen one would be disproved subsequently.

Finally, we deplore the lack of publicity which attended the preparation of a recommendation of such grave importance for the International Congress at Paris. Apparently, the brief note in *Taxon* in 1952 (1:40) is the only announcement of it which American bryologists may possibly have seen before the Paris meeting, although there are at least three bryological journals of international repute and wide circulation. If the decision at Paris was based upon pertinent data or information, these should have been published before the committee made its final recommendation. We have received assurance from at least four well known bryologists in the United States that they too object strenuously to the 31 December date. None of them had opportunity to express their opinion to the members of the subcommittee headed by Dr. R. van der Wijk. Among other bryologists, none of them has been in favor of that date, though several have been noncommittal — perhaps because they do not use the older literature extensively and are not fully aware of the implication of the newly accepted date. How can a committee speak for the bryologists of all nations if only the committee members are cognizant of the issues being decided? The prevailing philosophy among scientists generally seems to be a democratic one, derived from longstanding international cooperation and good will. But the present decision based upon a recommendation from a committee whose members were not elected democratically, and whose members probably represent a minority opinion, will cause dissension and add to the already embarrassing number of eminent muscologists who do *not* see fit to conform to the international rules of nomenclature.

In conclusion, we are convinced that the 31 December 1801 date for Hedwig's

Species Muscorum is unwise; that a majority of practicing muscologists are not in favor of its adoption; ant that furthermore, the opinion of that majority was not considered by the committee which made the recommendation. Therefore, we hardly can recommend adherence to the date, 31 December 1801, as the starting point for muscological nomenclature, and certainly feel no moral compulsion to abide by it ourselves.

In order to avoid any unnecessary delay in the preparation of the *Index Muscorum*, or, even worse if it is not delayed, to avoid the nullification of much of the work involved in its preparation, this controversy should be aired immediately. Perhaps an actual poll of the bryologists who are members of the International Association of Plant Taxonomists is in order. If a majority of them, after due consideration of all of the facts, were to support the present decision to adopt 31 December 1801 as the effective date of publication of Hedwig's *Species Muscorum*, then a major objection to it would be overcome. A poll could be executed by the national bryological societies, directly by the I.A.P.T., or, if preferable, by the subcommittee of the International Congress under the leadership of Dr. van der Wijk. An alternative procedure would be to publish a request for the opinions of individual muscologists in the bryological journals.

The problem will be discussed at length at the next annual business meeting of the American Bryological Society in September 1956 at Storrs, Connecticut. A report on them will appear subsequently in The Bryologist. It is hoped that the officers of other bryological organizations also will bring the fact to the attention of the constituents of their groups so that a truly democratic decision may be achieved.

If as we contend, another change is desirable, then, the consensus of opinion of those polled might be indicative of the probable action that will be taken at the next International Congress of Botanical Nomenclature. By anticipating that action, the compilation of the *Index Muscorum* may proceed in the confidence that its future value is assured.

NOMENCLATURAL NOTES ON MYRTACEAE AND RELATED FAMILIES

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The following notes are presented in an attempt to answer questions which have arisen during the preparation of manuscript for the *Index Nominum Genericorum* which was authorized by the Botanical Congress at Paris in 1954. Most of these questions have to do either with typification of genera or with conservation of generic names, and these subjects will be discussed separately below. The genera in question belong for the most part to the family Myrtaceae, *sens. str.*, but there are included also some notes on related families which were formerly included in Myrtaceae, namely Barringtoniaceae, Lecythidaceae, Punicaceae, and Sonneratiaceae. In the following paragraphs when the family name is not given it may be assumed that the genus is a member of the Myrtaceae proper.

The cards on which the *Index* is to be published will bear on the second line of each the name of the type-species (or lectotype-species) of the genus to which the card pertains, but the *Index* is not intended to serve as a medium of publication for newly proposed lectotypes. Most of the following paper is devoted to proposals for the typification of genera in which no type-species have heretofore been proposed, or in which typification has been, in my opinion, insufficiently justified.

Among the more than 50 genera which are discussed below are included most of the American "myrtaceous" genera described

by Berg (1855—1861) and by Rafinesque (1838—1840), and also miscellaneous genera described by other authors. For the most part I have not attempted to provide lectotypes for Old World genera unless the case for typification seemed overwhelmingly strong. There remain approximately 30 Old World genera which seem never to have been properly typified; formal action in these groups should wait upon study by someone with taxonomic knowledge of the species involved.

In the Myrtaceae, and in the other families mentioned above, more than half the genera published since 1754 have included, at the time of publication, but a single species each. This is fortunate for the purposes of this *Index*, because there is never any question as to the identity of the genotype. In genera which originally included more than one species it has usually been necessary to provide lectotypes; in only a few cases have genotypes been designated by the original author.

The foundations for scientific work on the American Myrtaceae were laid by the elder Decandolle, who first recognized the large American genus *Myrcia* and who described many new species in various genera. Most of the American genera which are currently recognized, however, were described by Otto Karl Berg (b. 15 Aug. 1815 — d. 20 Nov. 1866), Professor of Pharmacy at the University of Berlin, who prepared and published a monumental revision of all New World Myrtaceae in the broadest sense. Most of Berg's genera included more than a single species, and for these genera lectotypes have been designated below, as it was not Berg's own practice to indicate any preference. The publication of Berg's revision was attended by unusual circumstances which in some cases make difficult the logical typification of the genera, and for this reason some space will be devoted here to a discussion of his work.

The sequence of events leading to the publication of Berg's *Revisio Myrtacearum Americae* seems to have been as follows: the author prepared a detailed treatment, including keys, descriptions and citations of pertinent literature and exsiccatae, of all American species and genera. He then (in effect) extracted from this the descriptions of all the Brazilian species and put these, together with necessary editorial additions, into a manuscript which he submitted for publication to the editors of Martius' *Flora Brasiliensis*. About the same time he extracted a series of notes and descriptions of Oersted's Central American Myrtaceae and forwarded these separately to Dr. Oersted. Finally he submitted his remaining manuscript — actually his major work, complete for all known American species except that it lacked the descriptions for the Brazilian ones — to the editors of the journal *Linnaea*.

Berg apparently expected publication of the *Flora Brasiliensis* to precede that of the manuscript submitted to *Linnaea*, because the latter, as it was finally printed, is replete with references to the *Flora*. All new genera in *Linnaea*, if these are represented by species in Brazil, are cited as from the *Flora*, without reference to volume or page but with all genera and species serially numbered as in the *Flora*. In the *Flora*, however, no reference is made to the general treatment in *Linnaea*. It thus appears that Berg submitted his two principal manuscripts to their respective editors at nearly the same time, in anticipation of early publication of the treatment in *Flora Brasiliensis*, and subsequent availability of the names published therein. The date on which Berg finished work on his manuscripts and forwarded them to the editors is unknown to me, but it may have been late in 1854, for Oersted's paper summarizing the results of Berg's work for him was presented at a meeting in Copenhagen on February 2, 1855. The course of publication of Berg's several manuscripts was quite different from that which he had anticipated, and was in some ways unfortunate.

The treatment of the Brazilian Myrtaceae, which comprised volume 14, part 1, of the *Flora Brasiliensis*, was published 15 May 1857, with a supplement which did not appear until 15 January 1859 (the supplement was written later than the original manuscript, and contains much material additional to that in *Linnaea*). Berg's general revision, however, had already appeared in *Linnaea*, volume 27, on the following dates (according to Urban, in Bot. Jahrb. 19: 562. 1894): November 1855 (pages 1—128), January 1856 (pages 129—384), and February 1856 (pages 385—512). The article entitled *Myrtaceae centroamericanae Bestemmelser og Beskrivelser af Dr. O. Berg*, according to a statement in the paper itself, was printed in July, 1856, and distributed the same month (see this article, Vidensk. Med. Nat. For. Kjoebenhavn 1855: 1—26). References to the article, however, including exact page-citations, were

made by Berg in Linnaea 27: 468—472, supposedly published in February 1856. It must be assumed that Berg, before the publication of these pages in Linnaea, had seen the account of Oersted's Myrtaceae in the form of a reprint, or in the journal, or at least page-proof of one or the other. Evidently Oersted's article was published, or at least printed, before the stated date, or else the final pages of Berg's *Revisio* were published much later than February, 1856. I have been unable to determine the truth of the matter, but for purposes of generic nomenclature it is almost completely irrelevant; one genus only (*Stenocalyx*) was published with description in Oersted's paper, and this name was nomenclaturally superfluous when published.

From the standpoint of nomenclature the confused sequence of publication of Berg's works has had the following consequences:

1. Most of Berg's new genera, of which he proposed about 30, were described and validly published in *Linnaea.*

2. New combinations were adequately and validly published in *Linnaea* even when, as in the case of most Brazilian species, they were not accompanied by descriptions.

3. Extra-Brazilian species known to Berg were described and validly published in *Linnaea.*

4. Berg's new Brazilian species were listed in *Linnaea* by name only, and were not validly published except in the *Flora Brasiliensis.*

5. Approximately 21 species were validly published in *Linnaea* and also in Oersted's *Myrtaceae centroamericanae,* and as yet it cannot be stated whether the one or the other has priority.

Because of the delay in the publication of this part of the *Flora Brasiliensis,* we are confronted today with a peculiar nomenclatural situation in which certain members of a genus have attained a specious priority in time over other species even though the two groups were studied and evaluated simultaneously, and their author had formed all his generic and specific concepts before any names appeared in print. In certain cases the most suitable lectotypes for Bergian genera were not formally published, in the modern interpretation, until their descriptions appeared in the *Flora.* For purposes of typification I have ventured to regard this as irrelevant since all the species known to Berg obviously formed a part of his "original materials" which went to form his concept of any particular genus.

The International Code of Botanical Nomenclature (Art. 18, ed. of 1952) does not refer to lectotype *species,* but says merely with general reference to the selection of lectotypes that "these must be selected from among the original materials". This ordinarily means the specimens which an author cited (or had on hand) at the time of the original publication of a species. In choosing a lectotype species, usually a choice must be made from among those published at the same time as the genus in which they are included. As pointed out above, however, the species of Berg's new genera (the species which because of his plan of work were all included among his "original materials") were not all validly published at the same time, although the names of all the species were listed in the earlier publication.

In the following pages, therefore, certain lectotype-species have been chosen from among those published in the *Flora Brasiliensis,* even if technically these were validated a year later than those in the same genus which were properly published in *Linnaea.* To insist that all lectotypes be chosen from among the species published in *Linnaea* would lead to various anomalies, as e.g. in the genus *Abbevillea:* This is principally a Brazilian genus; 17 species were known to Berg, but only four were validly published in *Linnaea.* The genus was based chiefly upon anther-characters, but Berg did not see flowering material of any of the four species published in *Linnaea,* and could hardly have founded the genus upon any of them. A suitable lectotype, on the other hand, well described and illustrated from flowering material, is readily found among the species described in the *Flora Brasiliensis.*

In the text below, as well as in that preceding, unqualified references to *Linnaea* are to Berg's *Revisio Myrtacearum Americae* in volume 27, and those to the *Flora Brasiliensis* are to volume 14, part 1.

* * *

Abbevillea Berg, Linnaea 27: 349 (*in key*). Jan. 1856; 425. Feb. 1856.

LT.: *A. klotzschiana* Berg. A genus originally of 17 species, of which four were validly published in *Linnaea*. A fifth species, *A. fenzliana* Berg, superficially appeared to be validly published because based on an earlier name published by Miquel; in the paper by Miquel, however, there is no description of the species, but merely a reference to a specimen. The genus *Abbevillea* is founded on characters of the anthers and calyx, so presumably the genotype should be a species of which Berg saw flowering specimens. Of the four species mentioned above, Berg did not see type-specimens of *A. eugenioides* (Camb.) Berg, or *A. cerasoides* (Camb.) Berg.[1]

He did see the types of *A. guaviroba* (DC.) Berg, and *A. punctulata* (DC.) Berg, but the former consisted of a fruiting specimen (Fl. Bras. 432), and from the description of the latter (Fl. Bras. 432) this specimen was past flower also. It appears, therefore, that Berg did not derive the characters of *Abbevillea* from any of the specimens or species mentioned above, but from one or more of those described for the first time in the *Flora Brasiliensis*.

The principal distinguishing character of *Abbevillea* resides in the anthers, which are described as "dorso baseos fixis". In the *Flora Brasiliensis*, where all 17 species are described, this character of the anthers is mentioned for three species only. Of these *A. klotzschiana* is chosen as lectotype because it is well illustrated (Fl. Bras. *t. 48*) and is the only species of the genus illustrated in the *Flora*. The type was a specimen collected by Sello in Minas Gerais, and seen by Berg at Berlin.

[1] It was Berg's practice to refer specifically by name to the herbaria in which he had seen the specimens which he cited. In the *Flora Brasiliensis* he mentioned most of the species described by Cambessèdes in St. Hilaire's *Flora Brasiliae Meridionalis* (volume 2, 1829), but apparently Berg never saw any of St. Hilaire's specimens. As far as I can tell the *Flora Brasiliensis* contains no record that Berg ever examined specimens from the herbarium at Paris, where St. Hilaire's collection is deposited in the Muséum National d'Histoire Naturelle (P).

Acca Berg, Linnaea 27: 135 (*in key*), 138. Jan. 1856.

LT.: *A. domingensis* Berg. A genus originally of two species, of which the first is arbitrarily chosen as genotype because it was the source of the generic name (*A. domingensis* was based on *Eugenia? Acka* DC. Prodr. 3: 277. 1828). The type-species is correctly known as *Acca* **macrostema** (Ruiz & Pavon ex G. Don) McVaugh, comb. nov. (*Psidium macrostemum* Ruiz & Pavon, Fl. Peruv. et Chil. ined. *t. 420a;* Ruiz & Pavon ex G. Don, Gen. Hist. 2: 833. 1832). The second species proposed by Berg, *Acca peruviana*, is correctly known as **A. lanuginosa** (Ruiz & Pavon ex G. Don) McVaugh, comb. nov. (*Psidium lanuginosum* Ruiz & Pavon, Fl. Peruv. et Chil. ined. *t. 421b;* Ruiz & Pavon ex G. Don, Gen. Hist. 2: 832. 1832).

Acmena Decandolle, Dict. Class. Hist. Nat. 11: 401 (*name only*). Jan. 1827. (Preprint, 5, *name only*. 1826); Prodr. 3: 262 (*descr.*). 1828.

T.: *A. floribunda* (Smith) DC. Merrill and Perry, Journ. Arnold Arb. 19: 3. 1938, present arguments to show that *Metrosideros floribunda* Smith, on which *Acmena floribunda* was based, is a member of the genus *Angophora* Cav. These authors also show to their satisfaction that the specimens which Decandolle had before him were three in number, all the same species and all representing *Eugenia elliptica* Smith, or *Acmena floribunda β elliptica* (Smith) DC., which is a true *Acmena* in the sense of Decandolle and of most later authors. Merrill and Perry, therefore, designate as genotype the species *Eugenia elliptica* Smith (not *E. elliptica* Lam.), a plant which was later renamed *E. smithii* Poir. This action on the part of Merrill and Perry fixes the name *Acmena* in the traditional sense, but their right to select the genotype in this way is open to question.

In the first published mention of *Acmena* (Dict. Class. Hist. Nat. 11: 401. 1827), Decandolle wrote merely "*Acmena* D.C. (*Metrosideros floribunda*, Smith)". It was clearly his intent to base his new genus upon this single species. In the *Prodromus* (1828), Decandolle definitely transferred *M. floribunda* to *Acmena*, and typification of the latter must depend upon the type-specimen of *M. floribunda*, whether or not Decandolle correctly interpreted this. Assuming that he erred, and that *M. floribunda* does belong

to the genus *Angophora,* then the name *Acmena* falls into the synonymy of *Angophora,* and another generic name must be taken up for *Eugenia smithii* and other species currently passing as members of *Acmena.* At least one name is available; this is *Lomastelma* Raf., which was founded directly upon *Eugenia elliptica* Smith.

Acrandra Berg, Linnaea 27: 349 (*in key*). Jan. 1856; 435. Feb. 1856.

LT.: *A. laurifolia* (Gardn.) Berg (*Campomanesia laurifolia* Gardn.). A genus originally of three species, of which only the above was validly published in *Linnaea.* It may stand as genotype, because the plate in the *Flora Brasiliensis* (*t.* 52) well illustrates the cuspidate anther-tips for which the genus is named; Berg saw Gardner's specimen (no. 419), although not the actual type.

Aguava Rafinesque, Sylva Tellur. 107. 1838.

LT.: *A. guianensis* (Aubl.) Raf. (*Eugenia guianensis* Aubl.). Rafinesque cited a second species, *Aguava tomentosa* (Aubl.) Raf., but only *A. guianensis* agrees with his description: "pet. 5 concavis, bacca unil. monosp."

Amyrsia Rafinesque, Sylva Tellur. 106. 1838.

LT.: *Myrtus microphylla* Humb. & Bonpl. This species, and also *Myrtus foliosa* H.B.K., *M. discolor* H.B.K., and *M. compressa* H.B.K., were named by Rafinesque as members of his new genus. The diagnosis was as follows: "diff. Pimentus caps. 2 loc. polysp. ut Myrtus". None of the four cited species except *M. microphylla* has the fruit "polysp. ut Myrtus", so that species must stand as genotype. The name *Amyrsia* has many years' priority over the better-known *Myrteola* Berg, and the latter will be proposed for conservation.

Angophora Cavanilles, Ic. 4: 21. *t.* 338. 1797.

LT.: *A. cordifolia* Cav. A genus originally of two species, of which the foregoing is chosen as genotype because it is based definitely upon a specimen in the Née herbarium. The second species, *A. lanceolata* Cav., is based partly upon a specimen in the same herbarium, and partly upon *Metrosideros costata* Gaertner; the description of *A. lanceolata,* moreover, is not handled independently, but the latter species is repeatedly compared, as with a standard, with *A. cordifolia.*

Archirhodomyrtus (Niedenzu) Burret, Repert. Sp. Nov. 50: 59. 10 June 1941.

LT.: *A. baladensis* (Brongn. & Gris) Burret (*Myrtus baladensis* Brongn. & Gris). This genus was based upon *Rhodomyrtus* sect. *Archirhodomyrtus* Niedenzu, in Natürl. Pflanzenfam. 3(7): 70. 1893. The section originally included but the single species named above, which is thus to be considered the type of the section and of the genus based upon it. When Burret elevated the section to generic rank he included four species, without designating a genotype.

Aulacocarpus Berg, Linnaea 27: 137 (*in key*), 345. Jan. 1856.

LT.: *A. crassifolius* (Benth.) Berg (*Campomanesia crassifolia* Benth.). A genus originally of two species of which one, the above, was validly published and fully described in *Linnaea,* whereas the other, *A. sellowianus,* was first validly published in the *Flora Brasiliensis.* Although thought by its author to be myrtaceous, *Aulacocarpus* is now thought to belong to the Melastomaceae (see Burret in Notizbl. Bot. Gart. Berlin 11: 150—151. 1931, and Morley in Univ. Calif. Publ. Bot. 26: 224—225. 1953).

Aulomyrcia Berg, Linnaea 27: 5 (*in key*), 35. Nov. 1855.

LT.: *A. multiflora* (Lam.) Berg (*Eugenia multiflora* Lam.). A genus, as understood by Berg, of more than 200 species; its typification must of necessity be somewhat arbitrary. It is doubtfully distinct from *Myrcia* proper; it is usually distinguished from this genus by having the calyx-tube, or hypanthium, prolonged above the summit of the ovary and usually glabrous within. The species chosen as lectotype fixes the name *Aulomyrcia* in this traditional sense; it was based upon a still-recognizable specimen in the herbarium of Lamarck; it was one of the earliest species to be described; and it is well represented in herbaria.

Austromyrtus (Niedenzu) Burret, Notizbl. Bot. Gart. Berlin 15: 500. 30 Mar. 1941.

T.: *A. tenuifolia* (J. E. Smith) Burret (*Myrtus tenuifolia* J. E. Smith). The genus was based on *Myrtus* Sect. *Austromyrtus* Niedenzu, Natürl. Pflanzenfam. III (7): 66. 1893, which included originally about 15 species. No type-species was indicated by Niedenzu or by Burret. Professor Burret informs me, however, in a letter of 10 April 1956, that he regards *Austromyrtus tenuifolia* as the genotype.

Backhousia Hooker et Harvey, Bot. Mag. *t. 4133.* 1 Jan. 1845.

LT.: *B. myrtifolia* Hook. & Harv. This is the species which was illustrated in the original publication, and on which the generic description was primarily based. The other species described at the same time, *B. riparia* Hook. & Harv., was mentioned merely incidentally, and not illustrated.

Blepharocalyx Berg, Linnaea 27: 348 (*in key*). Jan. 1856; 412. Feb. 1856.

LT.: *B. acuminatissimus* (Miq.) Berg (*Eugenia acuminatissima* Miq.). Of the 22 species listed in *Linnaea,* 5 are validly published, but three of these latter are assigned provisionally to *Blepharocalyx* as *"non satis notae",* and are thus excluded from consideration as possible genotypes. The two remaining species, *B. acuminatissimus* and *B. salicifolius* (H.B.K.) Berg, are well typified and properly published. The latter is excluded because it is of doubtful generic position, having never been collected except in the flowering condition. The principal range of the genus is from northern Argentina to Uruguay and southern Brazil, and this casts further doubt on the generic status of *B. salicifolius,* which is known only from the mountains of southern Ecuador. The type of *B. acuminatissimus* is Claussen's no. 1518, duplicates of which were seen by Berg in the herbarium of Martius and at Vienna.

Britoa Berg, Linnaea 27: 348 (*in key*). Jan. 1856; 435. Feb. 1856.

LT.: *B. sellowiana* Berg. A genus of 7 species, of which one only, *B. eriantha* (Camb.) Berg, was validly published in *Linnaea* (*B.? acida* was published, but not definitely assigned to this genus). Berg saw no specimens of *B. eriantha* (Fl. Bras. 463). He described it as having "limbo calycino obtuse 5-dentata", and "calyx campanulatus, demum profunde regulariter 5-fidus". This does not agree very well with the character as given in *Linnaea* (p. 348): "calyx primum plus minusve clausus v. 5-4-dentatus; demum ad verticem germinis longitudinaliter direptus". The description of *B. sellowiana,* however (Fl. Bras. 463), reads: "calyce dentato, demum irregulariter 2-4-partito, tandem deciduo"; it is the only species illustrated in the *Flora Brasiliensis* (*t.* 53), and the calyx is shown as "longitudinaliter direptus". It is chosen as genotype because it best fits the generic description, and because it is based upon specimens which Berg saw and illustrated.

Calycampe Berg, Linnaea 27: 129. Jan. 1856; 467 (*in key*). Feb. 1856.

LT.: *C. latifolia* Berg. A genus originally of two species, both from Guiana, both described by Berg in *Linnaea,* and both based on syntypes. The above species is arbitrarily selected as genotype for the following reasons: 1) It has already been transferred to *Myrcia* as *M. calycampa* Amshoff, an action which may be construed as suggesting or implying typification, and 2) The second species of the genus, *C. angustifolius,* is perhaps not a distinct species; by some authors, including Bentham, it has been considered a synonym of *Myrcia hebepetala DC.*

Calycorectes Berg, Linnaea 27: 136 (*in key*), 317. Jan. 1856.

LT.: *C. mexicanus* Berg. A genus originally of four species, of which 2 were described and validly published in *Linnaea.* The generic character is: "alabastra clausa, calyx tandem longitudinaliter direptus". The above species is chosen as genotype because its description agrees with the generic character, and because it is based on one specimen only, Galeotti's no. 2867, in the Vienna herbarium. A Brazilian species, *C. sellowianus* Berg, is illustrated in the *Flora Brasiliensis* (*t. 34*), and the plate shows the generic character well enough, but this species is not chosen as genotype because in the description it is compared, as if against a standard, with *C. mexicanus.*

Calyptromyrcia Berg, Linnaea 27: 5 (*in key*), 34. Nov. 1855.

LT.: *C. cymosa* Berg. A genus originally of 8 species, with the character: "alabastra aperta, calyce repando, demum profundius 5-lobo". Two species, *C. elegans* (DC.) Berg, and *C. spixiana* (DC.) Berg, are validly published in *Linnaea.* The last species should not be regarded as the genotype, because Berg states that it may be merely a variety of *C. elegans.* I believe that *C. elegans* should not be designated as genotype, especially since my own observations on the type-specimens, in Munich in 1954, lead me to believe that neither *C. elegans* nor *C. spixiana* can be distinguished generically from *Aulomyrcia.* Berg did not state definitely that he had seen specimens of *C. elegans,* and in describing the calyx he did not characterize it well, writing merely: "lobis calycinis parvis, rotundatis, intus puberulis, ciliolatis".

In the *Flora Brasiliensis,* however, Berg mentioned at least four species with the calyx

characteristic of *Calyptromyrcia* as he understood it. One of these, *C. cymosa,* was described as having the "calyx repandus, tandem profundius 5-fidus", and the same species was illustrated in *t. 18.* The type was a specimen which Berg saw in the Berlin herbarium, collected by Sello in São Paulo.

Catinga Aublet, Hist. Pl. Guian. Fr. 511. *t. 203, fig. 1.* 1775.

LT.: *C. moschata* Aubl. This species is chosen because it was called by the natives "Iva-catinga" (thus the source of the generic name), and the illustration portrayed both leaves and fruit. The second species, *C. aromatica,* was called "goyava-rana", and the fruit only was illustrated.

Cluacena Rafinesque, Sylva Tellur. 104. 1838.

LT.: *C. vaccin(i)oides* (H.B.K.) Raf. (*Myrtus vaccinioides* H.B.K.). This species, and *C. myrsinoides* (*Myrtus myrsinoides* H.B.K.), were named by Rafinesque as members of his new genus. The diagnosis was as follows: "cal. adherens 4 part. pet. 4, stam. 8, bacca 2 loc. polysp." Only *C. vaccinioides* could have the stamens 8 and the berry many-seeded, so that species must stand as genotype. The name *Cluacena* has many years' priority over the better-known *Myrteola* Berg, and the latter will be proposed for conservation, as already suggested by Kausel (Lilloa 13: 146. 1948).

Cumetea Rafinesque, Sylva Tellur. 106. 1838.

LT.: *C. alba* Raf. (*Eugenia coumete* Aubl.). Selected as genotype because it alone was based on a cited basonym; the other species cited by Rafinesque were attributed to "authors".

Emurtia Rafinesque, Sylva Tellur. 106. 1838.

LT.: *Myrtus micrantha* H.B.K. This species, and also *M. emarg(inata), guayaquilense,* and *punicifolia* "of Kunth", were named by Rafinesque as members of this new genus, which was said to differ from *Pimentus* by "bacca uniloc. monosp. fol. oppos." These characters are applicable equally to all the species named, and *M. micrantha* is arbitrarily chosen as genotype because it is a rather well-understood Colombian species; it belongs to a group of *Eugenia* in which the small flowers are in short axillary racemes. The selection of this species as the genotype of *Emurtia* is not likely to lead to any nomenclatural changes in the future.

Eugenia Linnaeus, Sp. Pl. 470. 1753.

LT.: *E. uniflora* L. (*Eugenia* Micheli, Nov. Pl. Gen. 226. *t. 108.* 1729; *E. michelii* Lam. Encyc. 3: 203. 1789). A genus originally of 5 species, including the genotype and also *E. malaccensis, E. jambos, E. acutangula* and *E. racemosa.* It was soon recognized by the successors of Linnaeus that the original *Eugenia* was a mixture. The genus was first effectively typified by Decandolle, who in the 3rd volume of the *Prodromus* (1828), assigned two of the original species (*E. jambos* and *E. malaccensis*) to the genus *Jambosa,* one (*E. racemosa*) to *Barringtonia,* and one (*E. acutangula*) to *Stravadium.* This left in *Eugenia* the one species only, *E. uniflora*; Decandolle, following Lamarck, listed this under the name of *E. michelii.*

According to Savage, Cat. Linn. Herb. 87. 1945, there is no specimen of *E. uniflora* in the Linnaean Herbarium. The species must be typified on the basis of one of the references in the *Species Plantarum.* These references are four in number, namely to the *Flora Zeylanica* of Linnaeus, and to three publications which had been cited under the same species in the *Flora Zeylanica:* Van Royen's *Florae Leydensis Prodromus* ("Roy. lugdb.") 265. 1740; Micheli's *Genera* (l.c.); and Tilli's *Cat. Pl. Hort. Pis.* 117. *t. 44.* 1723. It appears from a study of these that Linnaeus's concept of *Eugenia uniflora* was unchanged from 1747 to 1753; that he supposed one of Hermann's Ceylonese plants to be identical with the plant of Italian gardens which was stated to have come from Goa; and that he confused two species under the name of *E. uniflora.*

The four references in the *Species Plantarum* may be discussed individually. The earliest publication, that of Tilli, is of little significance because the plant is essentially unidentifiable; the description is brief and the illustration is so generalized that it might apply to any myrtaceous plant with opposite, ovate or elliptic leaves, and solitary, pedicellate, 4-parted flowers apparently at leafless nodes between ordinary leafy ones.

Six years later Micheli proposed the name *Eugenia* for a plant which he stated to be the same as the *Myrtus indica, foliis rigescentibus latis,* & c., previously described in Tilli's catalogue of the Pisa garden. Micheli also stated that the plant had been cultivated in Italian gardens for about 10 years, having been brought originally from Goa. If he was correct in this, the plant must have been

introduced into India at an early date, for Micheli's illustration (*t. 108*) shows clearly that his plant is either identical with or very similar to the American one which Lamarck, and later Decandolle, called *Eugenia michelii.* It belongs to a small group which is readily recognized by its sulcate fruit and its solitary flowers from the lower axils of new vigorous shoots. There seems no reason to doubt that Micheli's plant was, as he supposed, identical with that of Tilli.

The works of Tilli and Micheli were cited by Van Royen (l.c.), who added nothing new in his account of the plant he called *Eugenia.* All three of the pre-Linnaean works cited in the *Flora Zeylanica* (and again in the *Species Plantarum*), therefore, probably refer to the same species, which is the nomenclatural basis for the name *Eugenia.* Linnaeus took up the generic name in the first edition (1737) of the *Genera Plantarum,* doubtless with the assumption that the type-species was Asiatic as implied by Micheli. It was probably because of such an assumption that he confused this species with another belonging to a very different group.

As pointed out by Trimen, Journ. Linn. Soc. Bot. 24: 129—155. 1887, much of Linnaeus's early concept of the genus *Eugenia* had been formed as a result of his study of Hermann's Ceylonese herbarium, and the five species to which binomials were assigned in the *Species Plantarum* had previously been described in the *Flora Zeylanica.* According to Trimen's account, Hermann's plant which Linnaeus referred to *Eugenia uniflora* was probably a variety of *E. malaccensis* L. It is possible, or even probable, that Linnaeus never saw a specimen, because at the time Trimen examined the herbarium of Hermann this plant was represented by a drawing only; and Linnaeus himself did not describe the specimen (as he did for many other species in the *Flora Zeylanica*), but stated only: "Inter pictas Hermanni habetur" (Fl. Zeyl. 84. 1747).

Essentially, therefore, Hermann's Ceylonese plant represented to Linnaeus some new material of a known species which was based primarily upon the *Eugenia* of Micheli. It follows that *Eugenia uniflora* L. rests chiefly upon Micheli's description and plate, and it is by these last that it seems we must logically typify the species, if *Eugenia* is to be retained as a valid generic name without resort to conservation.

Lamarck (Encyc. 3: 203. 1789, and Tabl. Encyc. 2: *t. 418. fig. 1.* 1793), in describing *Eugenia michelii,* based his new species primarily upon Micheli's description and plate, and Lamarck's own plate is at least partly redrawn from that of Micheli. Lamarck consciously discarded the name *Eugenia uniflora,* saying: "C'est Micheli qui a établi le genre *Eugenia,* & c'est l'espèce dont nous traitons ici qui lui a présenté les caractères de son nouveau genre. Cependant cette même espèce, qui a donné lieu à l'établissement de ce genre, semble n'avoir pas été véritablement connue de Linné, puisqu'il regarde tous ses pédoncules comme solitaires, & qu'il paroît en avoir fait un double emploi dans son *Plinia rubra....*"

It seems apparent now that Linnaeus did not really understand the plants which he grouped under the name *Eugenia uniflora.* He confused two very distinct species under this name, and he described at the same time (Sp. Pl. 471) a *Myrtus brasiliana* which has generally been relegated to the synonymy of *Eugenia uniflora* (or *E. michelii*). A little later (Mant. 243. 1767) Linnaeus described another species, *Plinia rubra,* to which Lamarck (see above) referred as another synonym of his *E. michelii.* Willdenow (Sp. Pl. 2(2): 962. 1800) accepted the name *E. uniflora* L., and regarded *Myrtus brasiliana* L., *Plinia rubra* L., and *P. pedunculata* L.f. as synonyms of it. Decandolle (Prodr. 3: 263. 1828) accepted *E. michelii* as the valid name, and indicated by the conventional sign (!) that he had verified the identity of Micheli's plant, at the same time relegating *M. brasiliana, P. rubra* and *P. pedunculata* to synonymy.

All the above authors regarded the plant described and figured by Micheli as the type-species of *Eugenia.* Linnaeus himself, in the 5th Edition of the *Genera Plantarum* (1754), attributed the genus to Micheli, and it seems logical to accept Micheli's plant as the genotype, and thus to typify *E. uniflora* of Linnaeus on the basis of the reference to Micheli, rather than on the basis of the Ceylonese plant collected by Hermann.

Typification of the genus *Eugenia* in the above manner will be in the interest of stability in nomenclature in this very large genus, since it will preserve the name in the sense in which it has ordinarily been used for the many American representatives of the genus. The genotype, *E. uniflora,* comprises the only part of the Linnaean genus of 1753 which has consistently been

retained in *Eugenia* by subsequent authors[1]. As pointed out by Merrill and Perry, Mem. Amer. Acad. Arts, Sci. 18(3): 135. 1939, the selection of any other genotype would necessitate the formation of an inordinate number of new combinations unless the Old World species currently assigned to *Syzygium* are considered congeneric with the New World species of *Eugenia*.

Eugeniopsis Berg, Linnaea 27: 5 (*in key*), 80. Nov. 1855.

LT.: *E. laevigata* (DC.) Berg (*Eugenia laevigata* DC.). A genus originally of 15 species (17 listed in *Linnaea*, but one is duplicated and one, *E. rubiginosa*, mistakenly assigned to this genus instead of to *Myrciaria*). Only *E. laevigata* and two others, *E. sylvatica* (Gardn.) Berg, and *E. paniculata* (Camb.) Berg, were validly published in *Linnaea*. Two different species are illustrated in the *Flora Brasiliensis*, but *E. laevigata* is chosen as genotype instead of one of these because it has priority, because its description as given fits the generic character ("alabastra subaperta, calyce breviter 4-lobo, demum profundius partito"), and because it is based on a single specimen which Berg saw in the herbarium of Martius.

Fabricia Gaertner, Fruct. 1: 175. *t.* 35. 1788.

LT.: *F. myrtifolia* Gaertn. This is the species illustrated by Gaertner, and the one which he described in detail. A second species, *F. laevigata*, was briefly described and not figured.

Feijoa Berg, Linnaea 29: 258. Sep. 1858.

LT.: *F. sellowiana* (Berg) Berg (*Orthostemon sellowianus* Berg). See below, under *Orthostemon*.

Goeldinia Huber, Bol. Mus. Paraense 3: 438. Dec. 1902.

LT.: *G. ovatifolia* Huber. This species is chosen as genotype because it was based on one of Huber's own collections (No. 1859), the description was fuller than the one given for the other species proposed at this time (*G. riparia*), and in the description of *G. riparia* this species was compared with *G. ovatifolia* as if with a standard. Fam. Lecythidaceae.

Gomidesia Berg, Linnaea 27: 5 (*in key*), 6. Nov. 1855.

LT.: *G. spectabilis* (DC.) Berg (*Myrcia spectabilis* DC.). A genus originally of 38 species, of which about one-third were validly published in *Linnaea*. The genotype is chosen because Berg saw the type-specimen in flower in the herbarium of Martius, and because the species is illustrated in the *Flora Brasiliensis* (*t. 11*) in such a way as to show well the generic character: "antherae sub-4 loculares, utroque latere rima sigmatoideo-flexuosa v. fere 4-valvatim dehiscentes". The same species was doubtfully designated genotype by Britton and Wilson, Sci. Surv. Porto Rico & Virg. Is. 6(1): 32. 1925.

Henslowia Wallich, Pl. As. Rar. 3: 13. *t. 221.* ?10 Dec. 1831.

LT.: *H. pubescens* Wall. This is the species illustrated by Wallich, and the one which he described in detail. A second species, *H. glabra*, was described incidentally and not figured. Fam. Crypteroniaceae.

Holopyxidium Ducke, Arch. Jard. Bot. Rio Janeiro 4: 152. 1925.

LT.: *H. retusum* (Berg) Ducke (*Lecythis retusa* Berg). This species is chosen as genotype because Ducke described the fruit, and because he stated that he had seen, in the British Museum, a duplicate of the type. The other species described at the same time, *H. jarana* Ducke, was designated as the genotype by Knuth, Pflanzenreich IV. 219a (Heft 105): 72. 1939, but such a course seems unjustifiable, because Ducke had seen none except sterile specimens of *H. jarana*. Fam. Lecythidaceae.

Imbricaria Smith, Trans. Linn. Soc. 3: 257. 1797.

LT.: *I. crenulata* Smith (*Jungia imbricata* Gaertn.). The genus *Imbricaria* was established to replace *Jungia* of Gaertner, which was a later homonym of *Jungia* L.f. *Imbricaria* was superfluous when published because of the earlier *Mollia* J. F. Gmel. The genotype is chosen because it was based upon a species of *Jungia*, whereas the second described species, *Imbricaria ciliata* Smith, was proposed as new, and evidently formed an addition to the generic concept as understood by Smith.

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[1] With the exception of Berg, who seems to have overlooked the fact that he was committing a nomenclatural *faux pas* by transferring the type-species of *Eugenia* to *Stenocalyx* and then accepting both generic names.

Jungia Gaertner, Fruct. 1: 175. *t.* 35. 1788.

LT.: *J. imbricata Gaertn.* This is the species illustrated by Gaertner, and the one which he described in detail. A second species, *J. tenella,* was described briefly and not figured. Typification of the genus was effected by J. E. Smith (see above), when he replaced the name *Jungia* by *Imbricaria,* and transferred *Jungia imbricata* to *Imbricaria,* at the same time stating that he had not seen *Jungia tenella* and so presumably could not certify as to its membership in the genus. Essentially the same action had been taken earlier, without comment, by J. F. Gmelin, who had created the genus *Mollia* to replace *Jungia* of Gaertner, and had established a single species, *M. imbricata* (Gaertn.) J. F. Gmel. in L. Syst. Nat. ed. 13. 2: 420. 1791.

Leptospermum Forster et Forster f. Char. Gen. Pl. 71. *t.* 36. 1776.

LT.: *L. scoparium* Forst. & Forst. f. A genus originally of seven species, of which the genotype only has been consistently retained in the genus in the judgment of all authors, the others having proven to be members of *Baeckea, Melaleuca,* or *Metrosideros.* The genus was superfluous when published, and so is illegitimate under the Code, because one of the original species, *L. leucadendron,* was based directly on the type-species of *Melaleuca, M. leucadendra* (L.) L. The name *Leptospermum* will be proposed for conservation.

Luma A. Gray, U.S. Expl. Exped. [15] (Bot. Phan. 1): 535. *t.* 66. 1854.

LT.: *L. chequen ["cheken"]* (Molina) A. Gray (*Eugenia chequen* Molina). A genus originally of seven species, broadly conceived by Gray. According to the recent studies by Kausel, the seven species are to be distributed among three genera (*Temu* Berg, *Myrceugenia* Berg, *Myrceugenella* Kausel). Unfortunately *Luma* has priority over all three of these genera, and must be taken up for one of them. Kausel suggests, in Lilloa 13: 127. 1948, that *Luma chequen* var. *a* of Gray, which is presumably the same as *Eugenia chequen* of Molina, be chosen as lectotype. Since *Eugenia chequen* is also the genotype of *Myrceugenella,* that name would fall into the synonymy of *Luma.* This is apparently a desirable decision from the standpoint of stability in nomenclature, for the species of *Myrceugenella* are relatively few, some of the proper combinations are already available under *Luma,* and only one or two species would have to be re-named.

Marlierea Cambessèdes in St. Hil. Fl. Bras. Merid. 2: 373 (folio ed. 269). *t.* 156. 1829.

LT.: *M. suaveolens* Camb. A genus originally of three species, of which the present is chosen as lectotype because it was the only one illustrated, and because the calyx was described in full agreement with the generic character as given by the author.

Megadendron Miers, Trans. Linn. Soc. ser. 2. Bot. 1: 109. *t.* 15. *figs.* 1—8. Dec. 1875.

LT.: *M. macrocarpum* (Hassk.) Miers (*Barringtonia macrocarpa* Hassk.). The genotype was chosen from among the three original species because it was illustrated and because Miers wrote of the other species, respectively, "evidently belonging to this genus" (i.e. suggesting some doubt of this), and "ambiguous in its relations". Fam. Barringtoniaceae.

Mitranthes Berg, Linnaea 27: 136 (*in key*), 316. Jan. 1856.

LT.: *M. browniana* (DC.) Berg (*Psidium brownianum* DC.). A genus originally of five species, of which the preceding, and also *M. ottonis* Berg and *M. eugenioides* (Camb.) Berg, were validly published in *Linnaea.* A fourth species which merits consideration as a possible genotype is *M. ovalifolia* Berg, which was published in the *Flora Brasiliensis* and well illustrated there (*t.* 33). The genotype is chosen because it has priority over *M. ovalifolia,* because Berg saw the type in the herbarium of Martius at Munich, and because it is clear from his writings that he assigned it knowingly to the genus (Fl. Bras. 355): "Ill. Candolleus speciem hanc praepositam teste Martio, qui calycem tandem 5-lobum nominat, ad genus Psidium duxerat; sed calyce transversim rumpente, germine biloculare, stigmate simplici, nec peltato, hanc speciem haud ad Psidium, sed ad Mitranthem pertinere demonstratur". Berg did not see the type of *Calyptranthes eugenioides* Camb., the basis for *Mitranthes eugenioides.* The fourth species mentioned above, *M. ottonis,* is excluded from consideration because of the earlier publication of *Psidium brownianum* and because of Berg's clear statement on the transfer of the latter to *Mitranthes.*

Mosiera Small, Man. Southeast. Fl. 936. 30 Nov. 1933.

LT.: *M. longipes* (Berg) Small (*Eugenia longipes* Berg). This is selected somewhat arbitrarily over *M. bahamensis* (Kiaerskou)

Small, the other species published at the same time. Small listed *M. longipes* first, and because of his long adherence to the tenets of the American Code this indicates at least a probability that he considered it the type- or standard-species of the genus. The original publication of *Eugenia longipes* Berg antedated that of *E. bahamensis* Kiaerskou, and if the two were to be combined, Berg's name would have to be taken up. Finally, the fruit-color in the genus was given by Small as "black", but he indicated at the same time that he was uncertain of the fruit-color in *M. bahamensis,* suggesting that he had placed a lesser emphasis on this species when formulating the generic character.

Myrceugenia Berg, Linnaea 27: 5 (*in key*). Nov. 1855; 131. Jan. 1856.

LT.: *M. lechleriana* Berg. A genus originally of seven species, of which the preceding is chosen as genotype because in the description Berg specifically described the ovary and embryo: "germen multiovulatum, . . . germine 2-loculare,. . . embryo cotylis foliaceis, contortuplicatis", and because he had seen Lechler's no. 563, the only specimen cited, in the Vienna herbarium. Three Chilean species, including the above, were described in *Linnaea,* and one species from southern Brazil, of which Berg had not seen the type, was also validly published. Because of the relatively great development of this genus in Chile, it is appropriate that the genotype be Chilean rather than Brazilian or Uruguayan. According to a recent opinion by Kausel, Lilloa 13: 136. 1948, *M. lechleriana* is to be referred to the synonymy of *M. exsucca* (DC.) Berg.

Myrcia Decandolle, Dict. Class. Hist. Nat. 11: 401, 406. Jan. 1827 (Preprint 5, 7. 1826); Prodr. 3: 242. Mar. 1828.

LT.: *M. bracteolaris* (Poir.) DC. (*Myrtus bracteolaris* Poir.). A genus originally of four species, *Myrtus bracteolaris,* and *M. coriacea* Vahl, *M. coccolobaefolia* H.B.K. and *M. billardiana* H.B.K. Neither in the *Dictionnaire* nor in the *Prodromus* did Decandolle indicate any preference for one species over another. In *Linnaea,* however, Berg effectively typified *Myrcia* by removing *Myrtus billardiana* and *M. coriacea* to *Aulomyrcia* (pp. 51, 70), and *M. coccolobaefolia* to *Pseudocaryophyllus* (p. 416), leaving in *Myrcia* but one of Decandolle's original species, *M. bracteolaris.* According to Amshoff, Rec. Trav. Bot. Néerl. 42: 7. 1950, *Myrcia bracteolaris* is a synonym of *M. fallax* (Rich.) DC. Britton and Wilson, Sci. Surv. Porto Rico & Virg. Is. 6(1): 28. 1925, designated *M. coriacea* Vahl as genotype but such a course appears inacceptable.

Myrcianthes Berg, Linnaea 27: 136 (*in key*), 315. Jan. 1856.

LT.: *M. apiculata* Berg. A genus originally of four species, these with 5-merous flowers and a eugenioid embryo with discrete, fleshy cotyledons and a short, subexserted radicle. Two species were validly published in *Linnaea,* viz. *M. brunnea* Berg (based on *Myrtus ovalis* Spreng.), and *M. cisplatensis* (Camb.) Berg. Neither of these species is acceptable as a genotype; Berg did not see the type of *Eugenia cisplatensis* Camb., and although he did see the type of *Myrtus ovalis,* this was described as in flower only. It is therefore suggested that *Myrcianthes apiculata* be accepted as genotype; this is well described as to the embryo and the 5-merous flowers (Fl. Bras. 352) and is well illustrated in the same publication (*t. 32*); it is based on a specimen collected by Sellow at Montevideo, and seen by Berg at Berlin. According to Legrand, An. Mus. Hist. Nat. Montevideo ser. 2. 4 (11): 56. 1936, *M. apiculata* is synonymous with *M. cisplatensis* (Camb.) Berg.

Myrciaria Berg, Linnaea 27: 136 (*in key*), 320. Jan. 1856.

LT.: *M. tenella* (DC.) Berg (*Eugenia tenella* DC.). A genus of 61 species as originally understood by Berg. Amshoff noted in Bull. Torrey Bot. Club 75: 532. 1948 that the species assigned by Berg to his group *Paniculatae* probably all belong to *Aulomyrcia* rather than to *Myrciaria*; Bentham had noted earlier, in the *Genera Plantarum* (1865) the heterogeneity of the latter genus. After the removal of these anomalous species, however, *Myrciaria* comprises a well-marked genus characterized by the features noted in Berg's original text: "Hypanthium supra germen valde productum, . . . saepissime circumscissum et deciduum. . . alabastra aperta . . . germinis loculi biovulati . . ." The genotype is chosen because it embodies all the above features, because Berg saw the flowering specimens in the herbarium of Martius, and because the floral characters are well described in the *Flora Brasiliensis* (p. 368) and illustrated there (*t. 36*).

Myrteola Berg, Linnaea 27: 348 (*in key*). Jan. 1856; 393. Feb. 1856.

LT.: *M. microphylla* (Humb. & Bonpl.) Berg (*Myrtus microphylla* Humb. & Bonpl.). A genus originally of six species, all validly published in *Linnaea*. One species, *M. myrsinoides* (H.B.K.) Berg, is now known to be a species of *Eugenia*. Berg distinguished *Myrteola* from the related genera *Myrtus* and *Ugni* by the 4-merous (rather than 4- or 5-merous) and oligandrous flowers and by the peltate stigma. It was further distinguished from *Ugni* by the anthers, which in the latter genus are sagittate. The genotype is arbitrarily chosen because it was well described with respect to the above distinguishing characters of the genus (except that Berg mistakenly described the stamens as "circiter 12" when there are actually 30 or more); in addition to this Berg saw the Bonpland specimen in the herbarium at Berlin, and finally, *M. microphylla* is a suitable genotype because it constitutes a well-marked taxon not readily confused with others in the same genus.

Octamyrtus Diels, Bot. Jahrb. 57: 373. *figs. A—N*. 14 Mar. 1922.

LT.: *O. insignis* Diels. Chosen from among the three original species because the flowers and fruit were known and were illustrated. Of the remaining species, *O. pleiopetala* was hardly known to Diels, and *O. behrmannii* was known to him from flowering material only.

Opa Loureiro, Fl. Cochinch. 308. 1790.

LT.: *O. metrosideros* Lour. It was pointed out by Seemann, in Journ. of Bot. 1: 280. 1863, that of the two original species of *Opa, O. odorata* was myrtaceous, whereas *O. metrosideros* was rosaceous; it was, in fact, identical with the plant that had more recently been called *Rhaphiolepis indica* Lindl. Seemann took up the name *Opa* for the rosaceous genus, and thus in effect typified Loureiro's genus by *O. metrosideros*. *Rhaphiolepis* has now been conserved over *Opa*, with the further implication that the genotype of *Opa* is congeneric with that of *Rhaphiolepis*. Merrill, in Trans. Am. Phil. Soc. ser. 2, 24: 286. 1935, has pointed out that *Opa metrosideros* is not a suitable genotype because it does not conform to the generic description, and has proposed the typification of *Opa* on the basis of the myrtaceous element; a similar proposal was made earlier by Nakai in Journ. Arn. Arb. 5: 67. 1924. Both these proposals seem superfluous unless *Rhaphiolepis* be removed from the list of *nomina conservanda*. Fam. Rosaceae.

Orthostemon Berg, Linnaea 27: 440. Feb. 1856.

LT.: *O. sellowianus* Berg. A genus of two species, both mentioned by name only in *Linnaea*, and validated in the *Flora Brasiliensis*. The genotype is chosen because it was illustrated in the *Flora* (*t. 54*). The second species, *O. obovatus* Berg, was less well described and was not illustrated. The generic name is invalidated by the earlier *Orthostemon* R.Br. (1810), and Berg proposed the name *Feijoa* (see above) to replace it.

Ozandra Rafinesque, Aut. Bot. 148. 1840.

LT.: *O. granulata* Raf. A genus originally of three species, of which two were based on species of *Melaleuca* described by other authors, whereas the third, *O. granulata*, was apparently based on a specimen in Rafinesque's herbarium; it was carefully described and studied; Rafinesque wrote: "sent to me as M[elaleuca]. thymif[olia]. that differs by many characters". Pennell, Bull. Torrey Bot. Club 48: 95. 1921, proposed to select *Ozandra hyssopifolia* as lectotype because it was the first species listed; under the American Code this was proper procedure (except that it was *not* the first species listed!), but it seems scarcely justified in view of the careful study which went into the publication of *O. granulata*. The name *O. hyssopifolia*, incidentally, is ill-founded; it was based by Rafinesque on "*Melaleuca hyssopifolia* Sm.", but apparently no such species was ever published; possibly Rafinesque meant *M. hypericifolia* Smith.

Phyllocalyx Berg, Linnaea 27: 136 (*in key*), 306. Jan. 1856.

LT.: *P. involucratus* (DC.) Berg (*Eugenia involucrata* DC.). A genus originally of 19 species, of which six were validly published in *Linnaea*. All of these except *P. involucratus* were species of Vellozo or of Cambessèdes, of which Berg had not seen the types. Berg saw the type of *P. involucratus* among the Martius specimens at Munich (Fl. Bras. 330), and the description of this species in the *Flora Brasiliensis* agrees well with the generic character, i.e. "flores praecoces, e gemma oriundi, infimi bractea stipati; sepala magna, foliacea, praefloratione aperta". Two species are illustrated in the *Flora Brasiliensis*; of these the plate representing *P.*

edulis (*t. 29*) does not show the character of the inflorescence; the plate of *P. retusus* (*t. 30*) shows this feature somewhat better, but there would seem to be no particular reason for the selection of this species as genotype over the well-described, well founded, and previously published *P. involucratus.*

Pilidiostigma Burret, Notizbl. Bot. Gart. Berlin 15: 547. 30 Mar. 1941.

T.: *P. glabrum* Burret. A genus to which three species were originally assigned with certainty. No genotype was designated at the time of publication, but Professor Burret informs me, in a letter of 10 April 1956, that he regards the above species in this light.

Pirigara Aublet, Hist. Pl. Guian. Fr. 487. *t. 192.* 1775.

LT.: *P. tetrapetala* Aubl. A genus originally of two species; the genotype is now regarded as a species of *Grias,* and the other species, *P. hexapetala,* as a member of the genus *Gustavia;* see Knuth, in Pflanzenreich IV. 219a (Heft 105): 19, 33. 22 Aug. 1939. The genus has been typified by the *Grias* element because Aublet himself appears to have had some such intention, as indicated by his citation of plate 192 on page 487, immediately after the generic name. Fam. Lecythidaceae.

Pseudocaryophyllus Berg, Linnaea 27: 348 (*in key*). Jan. 1856; 415. Feb. 1856.

LT.: *P. sericeus* Berg (*Myrtus pseudocaryophyllus* Gomes). This is a genus of somewhat doubtful validity, founded upon the supposed combination of characters of a pimentoid embryo, a 3- to many-flowered dichotomously branched cyme, and 4 persistent calyx-lobes. There were four original species, all validly published in *Linnaea,* and all based on previously described species. One of the four, *P. coccolobaefolius,* is now considered to be a species of *Eugenia.* Another species, *P. heteroclita,* was not known to Berg except through a published illustration (*Eugenia heteroclita* Tussac, Fl. Antill. 1: 98. *t. 12.* 1808). The third species, *P. fulvescens* (DC.) Berg, was seen by Berg in bud only, and in the *Flora Brasiliensis* was assigned to *Pseudocaryophyllus* with an expression of doubt. The fourth species, *P. sericeus,* was best known to Berg, and the basonym, *Myrtus pseudocaryophyllus,* was the source of the generic name. Berg probably did not see any specimens of *M. pseudocaryophyllus* Gomes, and it is possible that the latter is not conspecific with the species that Berg knew from Brazilian specimens. The lectotype-species of Berg's genus is, in effect, the species which he described and illustrated in the *Flora Brasiliensis* (p. 429; *t. 47a*), and for the present it may be assumed that this is actually *M. pseudocaryophyllus.* The latter was described by Gomes, Mem. Acad. Sci. Lisboa 3(1) [suppl.]: 92. *t. 6.* 1812, as having 4 persistent calyx-lobes, a dichotomous inflorescence, the seeds 1—2, very rarely "sub-7", very hard, and "hilo figuram 8 exhibenti, ex duobus foraminibus conflato, altero subcaeco, altero operculato", and both the description and the illustration suggest a pimentoid rather than a eugenioid structure of the cyme and of the embryo.

Rhodomyrtus (DC.) Hasskarl, Flora 25(2), Beibl. 1: 35. 1842.

LT.: *R. tomentosa* (Ait.) Hassk. (*Myrtus tomentosa* Ait.). This generic name is based on *Myrtus* sect. *Rhodomyrtus* DC. Prodr. 3: 240. 1828. The section was founded primarily on *M. tomentosa* Ait., which is clearly to be regarded as the genotype. A second species, *M. spectabilis* Blume, was placed here by Decandolle at Blume's suggestion, but with some reservations as to its correct generic disposition; *M. spectabilis* was later proposed as the type of a new genus, *Monoxora* Wight. The genus *Rhodomyrtus* is sometimes stated to have been published on page 177 of Reichenbach's *Nomenclator* (1841), but in this place appears the name only, with no description, no basonym cited, and no species mentioned. In view of the fact that names below the rank of genus have no priority at the higher rank, this seems not to constitute valid publication of the name at the generic level. Hasskarl, on the other hand, cited the volume and page of the *Prodromus,* named the species as *R. tomentosa,* and provided a description which applied to both genus and species.

Rubachia Berg, Linnaea 27: 5 (*in key*), 11. Nov. 1855.

LT.: *R. spiciflora* (Nees & Mart.) Berg (*Eugenia spiciflora* Nees & Mart.). A genus originally of 7 species, distinguished from related genera by having "alabastra non omnino clausa, apice sepalis brevissimis 3—5 instructa, demum ad germinis verticem partita"; fruit was not described by Berg for any species. Two species were validly

published in *Linnaea,* the genotype and *R. lateriflora* (DC.) Berg. Of these *R. spiciflora* is somewhat arbitrarily chosen because the calyx is well described in the *Flora Brasiliensis,* and because Berg saw the type in the herbaria of Martius and Nees.

Schidiomyrtus Schauer, Linnaea 17: 237. 1843.

LT.: *S. crenulata* (Smith) Schauer (*Imbricaria crenulata* Smith; *Jungia imbricata* Gaertn.). This genus was proposed with the expressed intention of replacing *Jungia* Gaertner, *Mollia* J. F. Gmelin, and *Imbricaria* Smith. The genotype is the same as that of *Jungia* Gaertn.

Siphoneugena Berg, Linnaea 27: 136 (*in key*), 344. Jan. 1856.

LT.: *S. densiflora* Berg. A genus originally of 3 species, of which all were validly published for the first time in the *Flora Brasiliensis.* The genus was characterized by having the "hypanthium cylindricum, usque ad germinis verticem circumscissum". One species, *S. aromatica* Berg, can hardly be considered as genotype because it was included in a section having "hypanthium non circumscissum". Also to be excluded is *S. widgreniana,* with which Berg was not well acquainted, and which he described from a single depauperate specimen (Fl. Bras. 379). The third species, and genotype, is *S. densiflora,* which was well described and well illustrated (*t.* 38), and based on a collection by Schuech, which Berg had seen in the Vienna herbarium. The name of the genus has been spelled *Siphoneugenia* by various authors, but Berg himself invariably spelled it *Siphoneugena,* and it may be assumed that this was his deliberate choice.

Spermolepis Brongniart et Gris, Bull. Soc. Bot. France 10: 577. 1864.

LT.: *S. gummifera* Brongn. & Gris. Chosen over the other species (*S. rubiginosa*) described at the same time, because *S. gummifera* was the original species known to the authors, and was the subject of a greatly expanded description published four years later (Bull. Soc. Bot. France 14: 254. 1868). The genus is properly known as *Arillastrum* Pancher ex Baillon; the name *Spermolepis* is a later homonym of *Spermolepis* Rafinesque (1825).

Stenocalyx Berg, Linnaea 27: 136 (*in key*), 309. Jan. 1856.

LT.: *S. michelii* (Lam.) Berg (*Eugenia michelii* Lam.; *E. uniflora* L.). A genus originally of 41 species, of which nearly half were validly published in *Linnaea.* The name *Stenocalyx* is illegitimate according to the International Code; it was superfluous when published because the genus included the type-species of a previously published genus, *Eugenia* L. The above genotype was designated by Merrill, in Journ. Arn. Arb. 31: 329. 15 Jul. 1950. His choice may well be upheld, although he did not give any explanation for the decision to select this species. As noted above this genus was published, with description, by Oersted in Vidensk. Med. Nat. For. Kjoeb. 1855: 9, but the date of publication is uncertain; for the present it is assumed that this paper was distributed in July, 1856, some months after the publication of the final fascicles of Berg's paper in *Linnaea.*

Stereocaryum Burret, Notizbl. Bot. Gart. Berlin 15: 546. 30 Mar. 1941.

T.: *S. rubiginosum* (Brongn. & Gris) Burret (*Spermolepis rubiginosa* Brongn. & Gris). A genus originally of two species. Professor Burret informs me, in a letter of 10 April 1956, that he regards the above as genotype, although it was not so designated in the original publication.

Temu Berg, Linnaea 30: 710. Mar. 1861.

LT.: *T. divaricatum* (Berg) Berg (*Eugenia divaricata* Berg). A genus originally of two species; the genotype is chosen because it was based entirely upon specimens which Berg had seen and studied. The name *Temu* is untenable because it is an orthographic variant of the earlier *Temus* Molina, Sagg. Chil. 178. 1782. The name *Temus* in its turn is not well founded, because the plant which Molina described as *Temus moscata* was probably a species of *Drimys* or a member of some related family, whereas the generic name was assigned under the misapprehension that the plant was the myrtaceous one called *temu* by the Chileans. The common name *temu* is applied in Chile to various species of Myrtaceae, including members of at least two different genera (see Kausel, *Contribución al estudio de las Mirtáceas Chilenas,* Rev. Argent. Agron. 9: 39—68. 1942). In view of this vagueness in application of the common name it seems impossible to typify *Temus* of Molina on the myrtaceous element when his description applies in essentially every particular to a plant of a different family. *Temus,* if typified on the basis of the plant described, must apply to some

non-myrtaceous genus, and *Temu* of Berg should be rejected on the grounds that it is an orthographic variant and so constitutes a permanent source of confusion and error.

Tepualia Grisebach, Syst. Bemerk. 31. 1854 (*reprint from* Abh. K. Ges. Wiss. Goettingen 6: 119. 1854).

LT.: *T. stipularis* (Hook. f.) Griseb. (*Metrosideros stipularis* Hook f.). A genus originally of two species, the above and *T. philippiana* Griseb. The latter was reduced to synonymy by Berg, in Linnaea 27: 466. 1856, and this action in effect established *T. stipularis* as genotype. The date of publication of the reprint of Grisebach's article is unknown to me; the original article in the *Abhandlungen* was probably not published until near the end of the year 1854, because the paper was not presented to the society until 6 October 1854. It is interesting to note that Grisebach's article was apparently not available to Berg until after the preparation of the manuscript of the *Revisio Myrtacearum Americae*, as evidenced by the fact that *Metrosideros stipularis* was originally referred by Berg to *Myrtus*. At the end of the *Revisio*, however, Berg included *Tepualia* under its own generic heading (Linnaea 27: 465. 1856) and inserted a note among the *corrigenda* (l.c. 472) directing its deletion from its former place in *Myrtus*. The presumption is that he had learned of the publication of *Tepualia* too late to insure the removal of the text of *Myrtus stipularis* from matter already set in type.

Uromyrtus Burret, Notizbl. Bot. Gart. Berlin 15: 490. 30 Mar. 1941.

T.: *U. artensis* (Montr.) Burret (*Helianthemum artense* Montr.). Professor Burret informs me, in a letter of 10 April 1956, that he regards this species as genotype, although it was not so designated in the original publication, where nine species (one with an expression of doubt) were assigned to the genus.

(to be continued)

News and Notes

CATALPA AND CUMBULU

While dealing with the type species of the genus *Catalpa* Scop. I have excluded *explicitly* the pre-Linnean name *Cumbulu* Rheede from the list of synonyms (Candollea 13 : 258. 1952). I wrote, however, *Cumbalu*, following the orthography given in some work of reference which I am unable to quote now.

Adanson used as the first (and apparently last) "Linnean" author the name *Cumbulu* again; he did so without disturbing its original meaning by Rheede. The type of *Cumbulu* Adans. is, therefore, *Gmelina rheedii* W. J. Hooker and *Cumbulu* falls as a synonym of *Gmelina* L. (cf. etiam Pfeiffer's Syn. bot., 207. 1870).

It is a pity, on the other hand, that the name *Cumbulu* Adans. appeared as a synonym of *Catalpa* Scop. in a list of generic names published in my monograph of the latter genus (Candollea 13 : 248. 1952 — *Cumbalu*), and I can only deeply regret that mistake.

In answer to the note entitled "Should *Catalpa* be conserved?" (Taxon 5 : 81) I have the pleasure to state that I fully agree "that it is entirely superfluous to conserve *Catalpa* Scop. against *Cumbulu* Adans.".

J. Paclt

NOTICES OF BOOKS

Contributions to this column will be gratefully received by Mr. K. U. Kramer, Botanical Museum, Lange Nieuwstraat 106, Utrecht, Netherlands.

Flora of Czechoslovakia

J. Dostál: Klič k úplné květeně ČSR (Key to the complete flora of Czechoslovakia). Ed. by Československá Akademie Věd, Praha, 1954. 1183 pp., with numerous drawings; in Czech. (This book, which in most respects follows closely the same author's "Květena ČSR" (1950), is mainly intended to replace that bulky flora for use in the field. The descriptions are largely confined to the keys, the data on habitat and distribution are quite concise, and great emphasis is laid on the numerous drawings in which the majority of the species are illustrated. The whole vascular flora of the country, native as well as cultivated species, is included; even large and intricate genera are dealt with extensively, with the exception of *Rubus*. The families and genera recognized are taken in a narrower sense than in most contemporary floras).

Flora of the Sudan

F. W. Andrews: The flowering plants of the Sudan. III. *Compositae — Gramineae.* Arbroath (Scotland), 1956. vii + 579 pp., 145 figs.

North American Flora

E. E. Sherff & E. J. Alexander: Ser. II pt. 2: *Compositae — Helianthineae — Coreopsidinae.* New York, 1955. 190 pp.

Flora of Brazil

H. Nessel: Flora Brasílica fasc. 11 (vol. II: II): *Lycopodiaceae.* São Paulo, 1955. 131 pp., 113 figs. (photographs). (The arrangement follows closely that of the same author's book "Die Bärlappgewächse" (1939); unfortunately, the same is true for the keys, which are mostly not dichotomous, and very difficult to use).

Botanical exploration of the Trans-Mississippi West 1790-1850

Of this book by S. D. McKelvey, published in 1955 by the Arnold Arboretum of Harvard University, Jamaica Plain, Mass., only an announcing circular was received.

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Monographs, revisions etc., published in periodicals

J. Cuatrecasas & J. M. Idrobo: El género *Meliosma* en Colombia. Caldasia VII (33): 187-211 (1956). (With key and 9 plates).

H. Hürlimann: Célastracées nouvelles ou critiques de la Nouvelle-Calédonie. Candollea 15: 69-78 (1955). (With keys to *Salaciopsis* and *Elaeodendron*).

D. E. G. Irvine: Notes on British species of the genus *Sphacelaria* Lyngb. Trans. & Proc. Bot. Soc. Edinburgh 37 (I): 24-45 (1956). (With key).

C. E. Kobuski: Studies in the *Theaceae* XXVIII. *Melchiora*, a new genus in Africa. Journ. Arn. Arbor. 37 (2): 153-159 (1956). (With key).

F. Pellegrin: Les Sapindacées du Gabon. Mém. Soc. Bot. France 51-78 (1955). (Mainly keys to genera and species).

M. Schneider: El género *Gomphichis*. Caldasia VII (33): 247-257 (1956). (With provisional key).

H. Sleumer: Die Hieracien Argentiniens unter Berücksichtigung der Nachbarländer. Bot. Jb. 77 (1): 85-148 (1956). (With key).

M. Zohary: The genus *Tamarix* in Israel. Tropical Woods 104: 24-60 (1956). (With key).

* * *

SOCIEDAD ARGENTINA DE BOTANICA

La Sociedad Argentina de Botánica está organizando las "Terceras Jornadas Argentinas de Botánica", en el curso de las cuales se efectuarán sesiones científicas con comunicaciones originales de los asociados, nacionales y extranjeras, conferencias publicas, disertaciones de relatores, proyecciones de películas didácticas, demostraciones y excursiones.

La reunión tendrá lugar en el Jardín Botánico Municipal de Buenos Aires, durante los días 17 al 22 de septiembre de 1956. Como plazo para la presentación de los títulos de las comunicaciones se ha fijado el 10 de agosto próximo.

La Sociedad Argentina de Botánica, fundada en 1945 y que agrupa alrededor de 300 asociados, está consagrada al fomento de los estudios de la "ciencia amable", a la protección de la naturaleza en el país, y edita el "Boletín de la Sociedad Argentina de Botánica" (Director: Dr. A. L. Cabrera, Museo de La Plata). Toda correspondencia acerca de las Jornadas debe dirigirse al Presidente de la Sociedad, Ing. A. Burkart (Instituto de Botánica Darwinion, San Isidro, Prov. de Buenos Aires, Argentina).

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